

chain bonds :

2-12 7-13 10-14 18-20 19-21

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 14-15 14-19
15-16 16-17 17-18 18-19

exact/norm bonds :

1-2 1-6 2-3 2-12 3-4 4-5 5-6 7-8 7-12 7-13 8-9 9-10 10-11 11-12

exact bonds :

10-14 18-20 19-21

normalized bonds :

14-15 14-19 15-16 16-17 17-18 18-19

Match level :

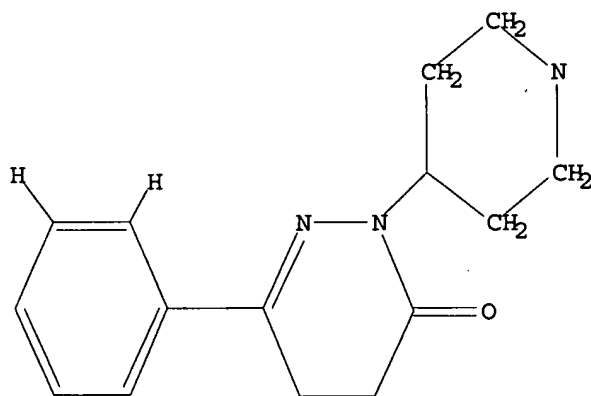
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:CLASS 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:CLASS 21:CLASS

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR

Rings not isolated

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 10:11:25 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 128 TO ITERATE

100.0% PROCESSED 128 ITERATIONS

12 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 1882 TO 3238

PROJECTED ANSWERS: 33 TO 447

L2 12 SEA SSS SAM L1

=> s l1 sss full
 FULL SEARCH INITIATED 10:11:31 FILE 'REGISTRY'
 FULL SCREEN SEARCH COMPLETED - 2760 TO ITERATE

100.0% PROCESSED 2760 ITERATIONS 241 ANSWERS
 SEARCH TIME: 00.00.01

L3 241 SEA SSS FUL L1

=> file caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	172.10	172.31

FILE 'CAPLUS' ENTERED AT 10:11:36 ON 09 FEB 2007
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 FILE LAST UPDATED: 8 Feb 2007 (20070208/ED)

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<http://www.cas.org/infopolicy.html>

=> s l3
 L4 22 L3

=> d ibib abs hitstr tot

L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:823689 CAPLUS
 DOCUMENT NUMBER: 143:229869
 TITLE: Preparation of phthalazinone derivatives as PDE4 inhibitors
 INVENTOR(S): Hatzelmann, Armin; Barsig, Johannes; Marx, Degenhard; Kley, Hans-Peter; Christiaans, Johannes A. M.; Menge, Wiro M. P. B.; Sterk, Geert Jan
 PATENT ASSIGNEE(S): Altana Pharma A.-G., Germany
 SOURCE: PCT Int. Appl., 57 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005075457	A1	20050818	WO 2005-EP50417	20050201
WO 2005075457	A8	20060302		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW,

SM

RM: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1720854 A1 20061115 EP 2005-701632 20050201

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR

PRIORITY APPLN. INFO.: EP 2004-2423 A 20040204

WO 2005-EP50417 W 20050201

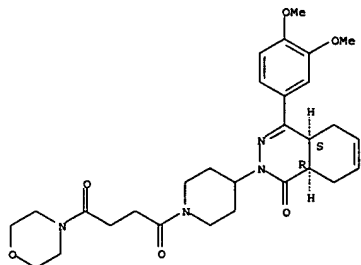
OTHER SOURCE(S): MARPAT 143:229869

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

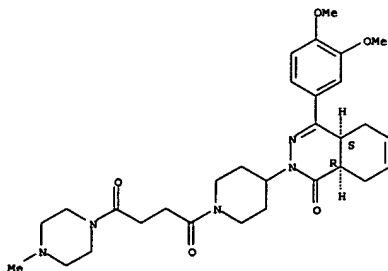
AB Title compds. I [R1 and R2 are both H or together from an addnl. bond; R3 = (un)substituted phenyl; R4 = OH, alkoxy, NHR5, etc.; R5 = OH, alkoxy or alkoxyalkyl; n = 0, 2, 3, or 4] and their pharmaceutically acceptable salts, are prepared and disclosed as PDE4 inhibitors. Thus, e.g., II was prepared by coupling of (4aS,8aR)-4-[(3,4-dimethoxyphenyl)-2-piperidin-4-yl]-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one hydrochloride (preparation given) with succinic anhydride. The inhibitory activity of I was evaluated using two

L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 862462-50-8 CAPLUS
 CN Piperazine, 1-[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]-1,4-dioxobutyl]-4-methyl-, (2E)-2-butenedioate (9CI) (CA INDEX NAME)
 CM 1
 CRN 862462-49-5
 CMP C30 H41 N5 O5

Absolute stereochemistry.

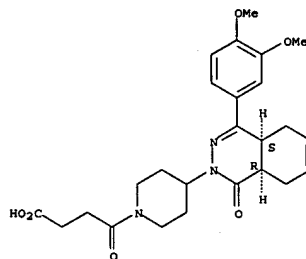


CM 2
 CRN 110-17-8

Habte

L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 different methods utilizing CAMP and it was revealed that compds. of the invention displayed -logIC50 values in the range of 8.4 up to 10.4 mol/L. I as inhibitor of PDE4 should prove useful in the treatment of airway disorders. Pharmaceutical compns. comprising I are disclosed.
 IT 862462-47-3P
 RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation of phthalazinone derivs. as PDE4 inhibitors)
 RN 862462-47-3 CAPLUS
 CN 1-Piperidinebutanoic acid, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-γ-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

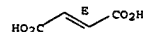


IT 862462-48-4P 862462-50-8P 862462-51-9P
 862462-53-1P 862462-54-2P 862462-55-3P
 862462-56-4P 862462-57-5P 862462-58-6P
 862462-59-7P 862462-60-0P 862462-61-1P
 862462-62-2P 862462-63-3P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of phthalazinone derivs. as PDE4 inhibitors)
 RN 862462-48-4 CAPLUS
 CN Morpholine, 4-[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]-1,4-dioxobutyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

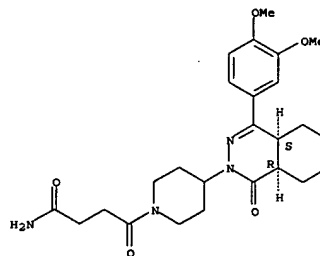
L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 CMP C4 H4 O4

Double bond geometry as shown.



RN 862462-51-9 CAPLUS
 CN 1-Piperidinebutanamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-γ-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

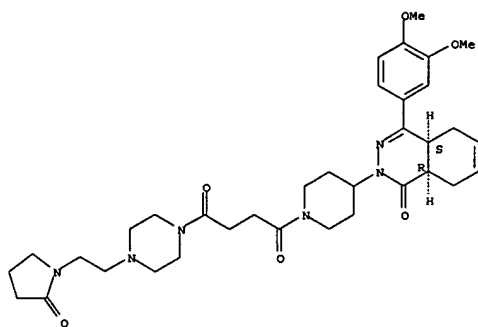


RN 862462-53-1 CAPLUS
 CN Piperazine, 1-[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]-1,4-dioxobutyl]-4-[2-(2-oxo-1-pyrrolidinyl)ethyl]-, (2E)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1
 CRN 862462-52-0
 CMP C35 H48 N6 O6

Absolute stereochemistry.

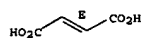
L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



CM 2

CRN 110-17-8
CMP C4 H4 O4

Double bond geometry as shown.

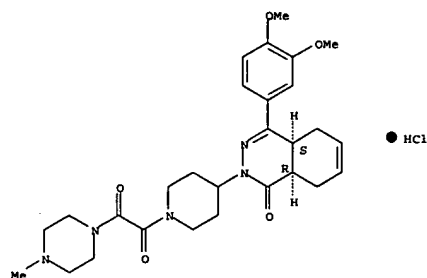


RN 862462-54-2 CAPLUS
CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-α-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

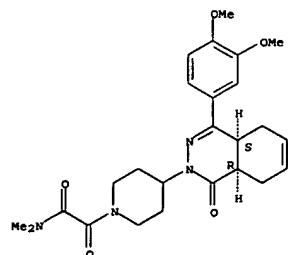
L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.



RN 862462-57-5 CAPLUS
CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N,N-dimethyl-α-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

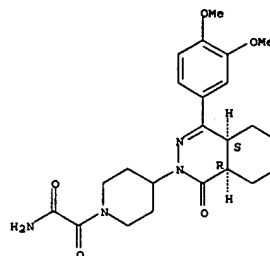


RN 862462-58-6 CAPLUS
CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-hydroxy-α-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

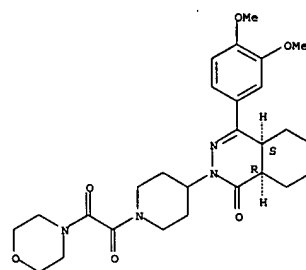
Habte

L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



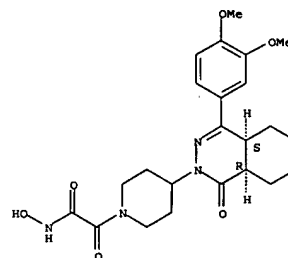
RN 862462-55-3 CAPLUS
CN Morpholine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyloxoacetyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



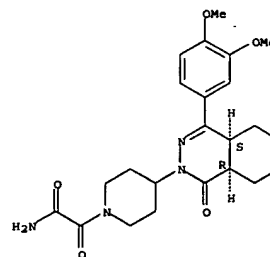
RN 862462-56-4 CAPLUS
CN Piperazine, 1-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyloxoacetyl-4-methyl-, monohydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 862462-59-7 CAPLUS
CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,6,7,8,8a-hexahydro-1-oxo-2(1H)-phthalazinyl]-α-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

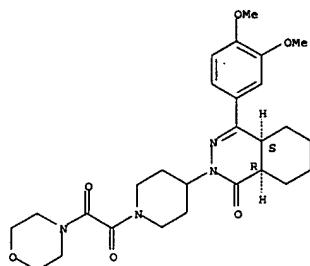


RN 862462-60-0 CAPLUS
CN Morpholine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,6,7,8,8a-hexahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyloxoacetyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

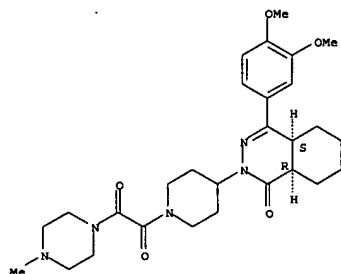
02/09/2007

L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 862462-61-1 CAPLUS
 CN Piperazine, 1-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,6,7,8,8a-hexahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]oxoacetyl]-4-methyl- (9CI) (CA INDEX NAME)

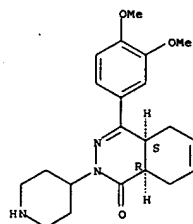
Absolute stereochemistry.



RN 862462-62-2 CAPLUS
 CN 1-Piperidineacetic acid, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-α-oxo-, 2,2-dimethylhydrazide (9CI) (CA INDEX NAME)

L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

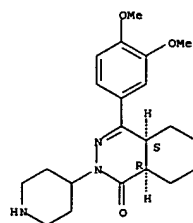
Absolute stereochemistry.



● HCl

RN 785047-47-4 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, (4aS,8aR)- (9CI) (CA INDEX NAME)

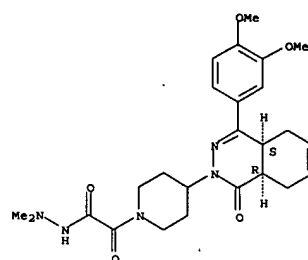
Absolute stereochemistry.



RN 862462-64-4 CAPLUS
 CN 1-Piperidineacetic acid, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-α-oxo-, methyl ester (9CI) (CA INDEX NAME)

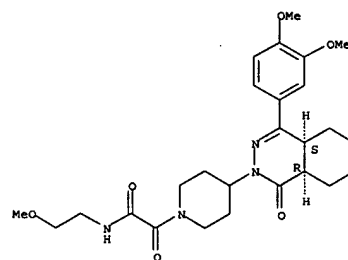
Absolute stereochemistry.

Habte

L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
Absolute stereochemistry.

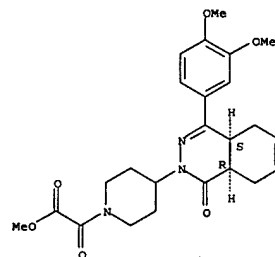
RN 862462-63-3 CAPLUS
 CN 1-Piperidineacetic acid, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(2-methoxyethyl)-α-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



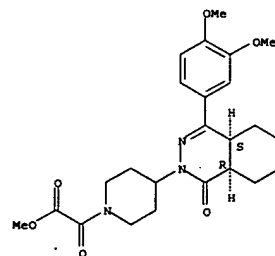
IT 380226-97-1P 785047-47-4P 862462-64-4P
 862462-65-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of phthalazinone deriva. as PDE4 inhibitors)
 RN 380226-97-1 CAPLUS

L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 862462-65-5 CAPLUS
 CN 1-Piperidineacetic acid, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-α-oxo-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

02/09/2007

L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:823688 CAPLUS
 DOCUMENT NUMBER: 143:229868
 TITLE: Preparation of piperidinyl pyridazinone derivatives

as PDE4 inhibitors
 INVENTOR(S): Hatzelmann, Armin; Barsig, Johannes; Marx, Degenhard;
 Kley, Hans-Peter; Christians, Johannes A. M.; Menge,
 Wiro M. P. B.; Sterk, Geert Jan
 PATENT ASSIGNEE(S): Altana Pharma A.-G., Germany
 SOURCE: PCT Int. Appl., 53 pp.
 CODEN: PIXXD2
 Patent
 English

DOCUMENT TYPE:
 LANGUAGE:
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005075456	A1	20050818	WO 2005-EP50415	20050201
WO 2005075456	A8	20060302		

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SM RW: BW, GH, GM, KE, LS, MW, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2005210042	A1	20050818	AU 2005-210042	20050201
CA 2554797	A1	20050818	CA 2005-2554797	20050201
EP 1716133	A1	20061102	EP 2005-716609	20050201

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS

PRIORITY APPLN. INFO.: EP 2004-2420 A 20040204

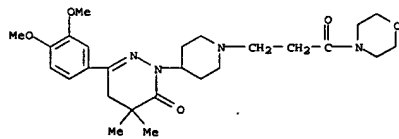
WO 2005-EP50415 W 20050201

OTHER SOURCE(S): MARPAT 143:229868
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

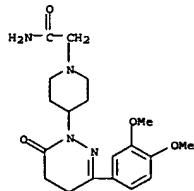
AB Title compds. I [R1 and R2 independently = alkyl; R3 = (un)substituted phenyl; R4 = COR5, S(O)R6(CH2)nCOR7 or CO(CH2)nR8; R5 = alkyl, NR9R10 or (un)substituted phenyl; R6 = alkyl, NR11R12 or (un)substituted phenyl; R7 = NR13R14; R8 = NR15R16; R9-16 independently = H, alkyl, cycloalkyl, etc.; n = 1-4; m = 1-4] and their pharmaceutically acceptable salts, are prepared

L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

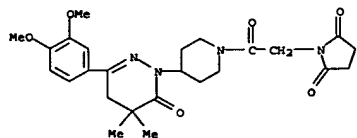


• x HCl

RN 862578-20-9 CAPLUS
 CN 1-Piperidineacetamide, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)



RN 862578-21-0 CAPLUS
 CN Piperidine, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]-1-[(2,5-dioxo-1-pyrrolidinyl)acetyl]- (9CI) (CA INDEX NAME)



RN 862578-22-1 CAPLUS
 CN Piperidine, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-

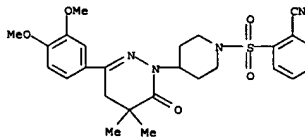
Habte

L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 and disclosed as PDE4 inhibitors. Thus, e.g., II was prepd. by coupling of 6-(3,4-dimethoxyphenyl)-4,4-dimethyl-2-piperidin-4-yl-4,5-dihydro-2H-pyridazin-3-one (prepn. given) with 2-cyanobenzenesulfonyl chloride. The inhibitory activity of I was evaluated using scintillation proximity

assay and it was revealed that selected compds. of the invention displayed -logIC50 values in the range of 7.60 up to 9.68 mol/L. I as inhibitor of PDE4 should prove useful in the treatment of airway disorders. Pharmaceutical compns. comprising I are disclosed.

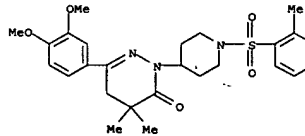
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 862578-28-7P 862578-29-8P 862578-30-1P
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 862578-34-5P 862578-35-6P 862578-36-7P
 862578-37-8P 862578-38-9P 862578-39-0P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of piperidinyl pyridazinone derivs. as PDE4 inhibitors)
 RN 862578-18-5 CAPLUS
 CN Piperidine, 1-[(2-cyanophenyl)sulfonyl]-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

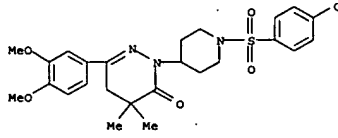


RN 862578-19-6 CAPLUS
 CN Morpholine, 4-[3-[4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]-1-piperidinyl]-1-oxopropyl]-, hydrochloride (9CI) (CA INDEX NAME)

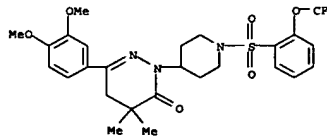
L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 1(4H)-pyridazinyl]-1-[(2-methylphenyl)sulfonyl]- (9CI) (CA INDEX NAME)



RN 862578-24-3 CAPLUS
 CN Piperidine, 1-[(4-cyanophenyl)sulfonyl]-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)



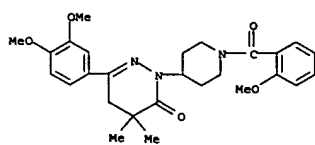
RN 862578-25-4 CAPLUS
 CN Piperidine, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]-1-[(2-(trifluoromethoxy)phenyl)sulfonyl]- (9CI) (CA INDEX NAME)



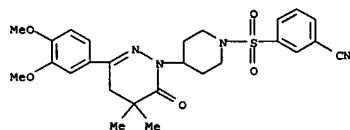
RN 862578-26-5 CAPLUS
 CN Piperidine, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]-1-(2-methoxybenzoyl)- (9CI) (CA INDEX NAME)

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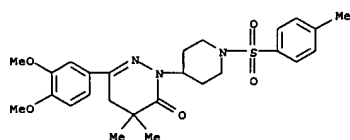
L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 862578-27-6 CAPLUS
 CN Piperidine, 1-[(3-cyanophenyl)sulfonyl]-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

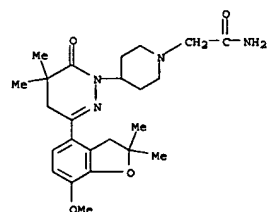


RN 862578-28-7 CAPLUS
 CN Piperidine, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]-1-[(4-methylphenyl)sulfonyl]- (9CI) (CA INDEX NAME)

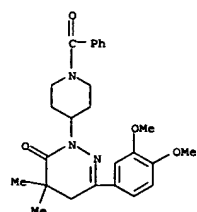


RN 862578-29-8 CAPLUS
 CN Piperidine, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]-1-[(3-methylphenyl)sulfonyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

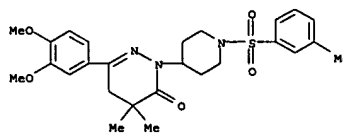


RN 862578-32-3 CAPLUS
 CN Piperidine, 1-benzoyl-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

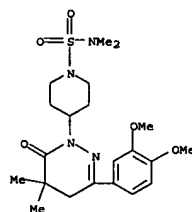


RN 862578-33-4 CAPLUS
 CN 1-Piperidineacetamide, 4-[3-(3,4-dimethoxyphenyl)-5,5-diethyl-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-, hydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

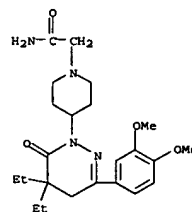


RN 862578-30-1 CAPLUS
 CN 1-Piperidinesulfonamide, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)



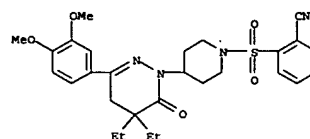
RN 862578-31-2 CAPLUS
 CN 1-Piperidineacetamide, 4-[3-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

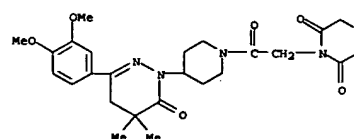


● x HCl

RN 862578-34-5 CAPLUS
 CN Piperidine, 1-[(2-cyanophenyl)sulfonyl]-4-[3-(3,4-dimethoxyphenyl)-5,5-diethyl-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)



RN 862578-35-6 CAPLUS
 CN Piperidine, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]-1-[(2,5-dioxo-4-morpholinyl)acetyl]- (9CI) (CA INDEX NAME)

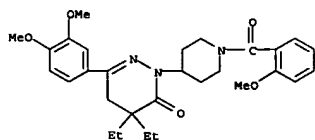


RN 862578-36-7 CAPLUS
 CN Piperidine, 4-[3-(3,4-dimethoxyphenyl)-5,5-diethyl-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-[(2,5-dioxo-4-morpholinyl)acetyl]- (9CI) (CA INDEX NAME)

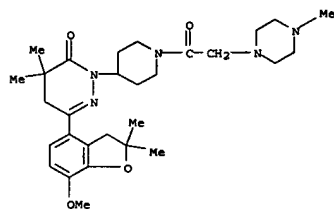
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02/09/2007

L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
pyridazinyl]-1-(2-methoxybenzoyl)- (9CI) (CA INDEX NAME)

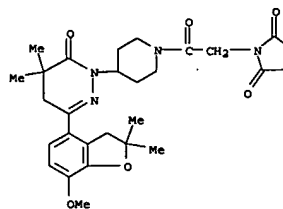


RN 862578-37-8 CAPLUS
CN Piperidine, 4-[3-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]-1-[(4-methyl-1-piperazinyl)acetyl]- (9CI) (CA INDEX NAME)

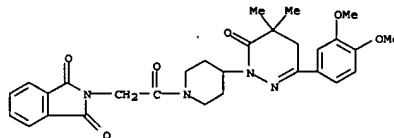


RN 862578-38-9 CAPLUS
CN Piperidine, 4-[3-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]-1-[(2,5-dioxo-1-pyrrolidinyl)acetyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

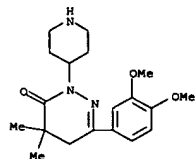


RN 862578-39-0 CAPLUS
CN Piperidine, 1-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)acetyl]-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-5,5-dimethyl-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

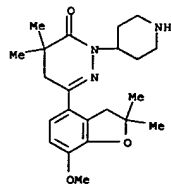


IT 862578-44-7P 862578-48-1P 862578-54-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of piperidinyl pyridazinone derivs. as PDE4 inhibitors)
RN 862578-44-7 CAPLUS
CN 3(2H)-Pyridazinone, 6-(3,4-dimethoxyphenyl)-4,5-dihydro-4,4-dimethyl-2-(4-piperidinyl)- (9CI) (CA INDEX NAME)

L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



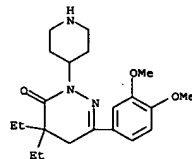
RN 862578-48-1 CAPLUS
CN 3(2H)-Pyridazinone, 6-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4,5-dihydro-4,4-dimethyl-2-(4-piperidinyl)-, hydrochloride (9CI) (CA INDEX NAME)



●x HCl

RN 862578-54-9 CAPLUS
CN 3(2H)-Pyridazinone, 6-(3,4-dimethoxyphenyl)-4,4-diethyl-4,5-dihydro-2-(4-piperidinyl)-, hydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



●x HCl

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:232615 CAPLUS
 DOCUMENT NUMBER: 142:291403
 TITLE: Use of phosphodiesterase 4 (PDE4) inhibitors for the treatment of diabetes mellitus
 INVENTOR(S): Hauser, Daniela; Hanauer, Guido; Grundler, Gerhard; Schmidt, Beate; Kemkowski, Joerg; Kley, Hans-Peter
 PATENT ASSIGNEE(S): Altana Pharma A.-G., Germany
 SOURCE: PCT Int. Appl., 50 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

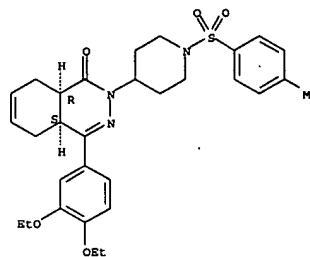
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005023253	A1	20050317	WO 2004-EP52005	20040902
WO 2005023253	A8	20060302		
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RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BP, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2004269923	A2	20050317	AU 2004-269923	20040902
AU 2004269923	A1	20050317		
CA 2537230	A1	20050317	CA 2004-2537230	20040902
US 2006281745	A1	20061214	US 2006-570622	20060303
PRIORITY APPLN. INFO.:			EP 2003-20126	A 20030905
			WO 2004-EP52005	N 20040902

AB The invention discloses the use of certain known PDE4 inhibitors for the treatment of diabetes mellitus and accompanying disorders thereof.

IT 449760-14-9 449760-15-0 449760-16-1
 449760-17-2 449760-19-4 449760-20-7
 449760-21-8 449760-22-9 449760-23-0
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 596102-09-9
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (phosphodiesterase 4 inhibitors for treatment of diabetes mellitus)
 RN 449760-14-9 CAPLUS
 CN Piperidine,
 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-

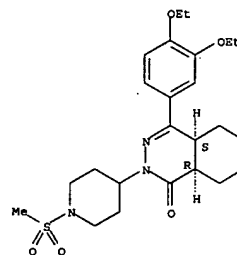
L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 2(1H)-phthalazinyl]-1-[(4-methylphenyl)sulfonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



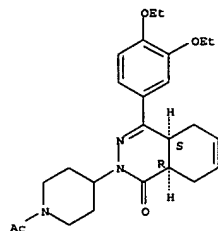
RN 449760-15-0 CAPLUS
 CN Piperidine,
 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(methylsulfonyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



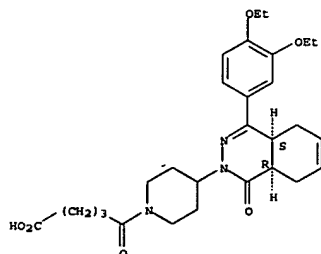
RN 449760-16-1 CAPLUS
 CN Piperidine, 1-acetyl-4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 Absolute stereochemistry.



RN 449760-17-2 CAPLUS
 CN 1-Piperidinepentanoic acid,
 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-5-oxo- (9CI) (CA INDEX NAME)

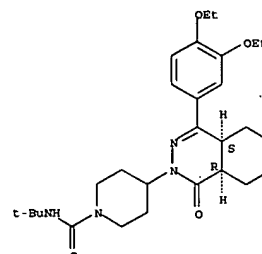
Absolute stereochemistry.



RN 449760-19-4 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

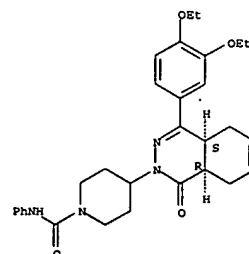
Absolute stereochemistry.

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-20-7 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-phenyl- (9CI) (CA INDEX NAME)

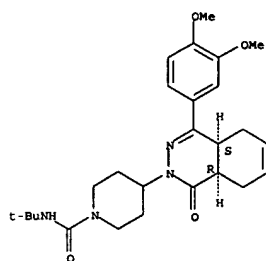
Absolute stereochemistry.



RN 449760-21-8 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

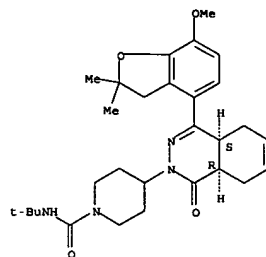
Absolute stereochemistry.

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-22-9 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)-, rel- (9CI) (CA INDEX NAME)

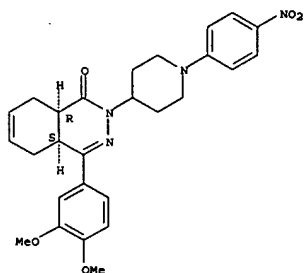
Relative stereochemistry.



RN 449760-23-0 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[5-(dimethylamino)-1-naphthalenyl]sulfonyl]- (9CI) (CA INDEX NAME)

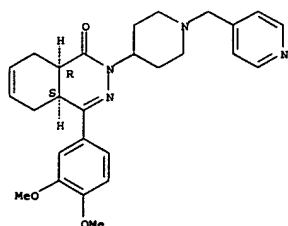
Absolute stereochemistry.

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-25-2 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

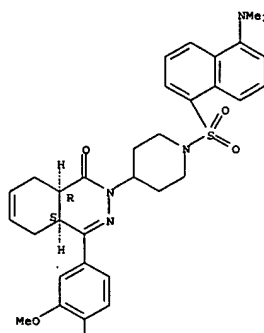


RN 449760-26-3 CAPLUS
 CN Morpholine, 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



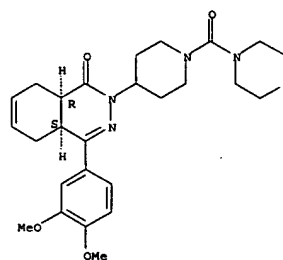
PAGE 2-A



RN 449760-24-1 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-nitrophenyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

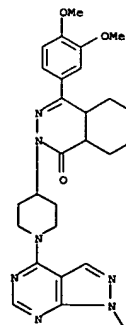
Absolute stereochemistry.

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-28-5 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-methyl-1H-pyrazolo[3,4-d]pyrimidin-4-yl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

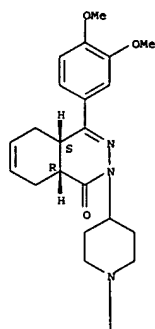


L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

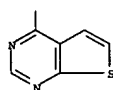
PAGE 2-A

RN 449760-29-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(1-thieno[2,3-d]pyrimidin-4-yl-4-piperidinyl)-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



PAGE 1-A

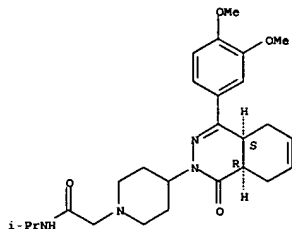


PAGE 2-A

RN 449760-30-9 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-

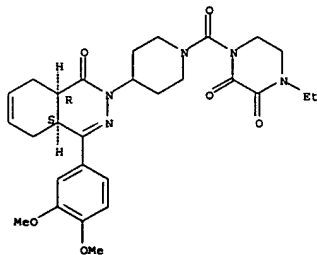
L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.



RN 449760-42-3 CAPLUS
 CN 2,3-Piperazinedione, 1-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]-4-ethyl-, (9CI) (CA INDEX NAME)

Absolute stereochemistry.

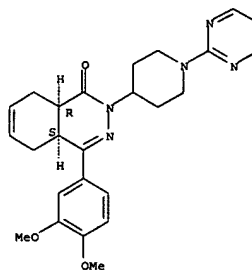


RN 449760-47-8 CAPLUS
 CN Piperidine, 4-[[4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(4-pyridinylcarbonyl)-, (9CI) (CA INDEX NAME)

Absolute stereochemistry.

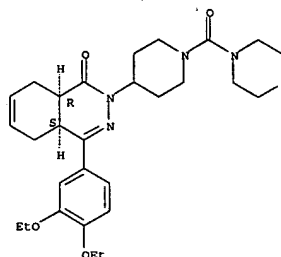
L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.



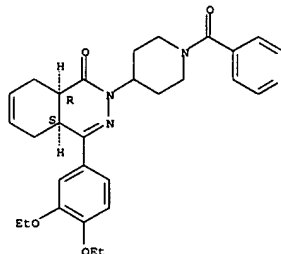
RN 449760-35-4 CAPLUS
 CN Morpholine, 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]-, (9CI) (CA INDEX NAME)

Absolute stereochemistry.



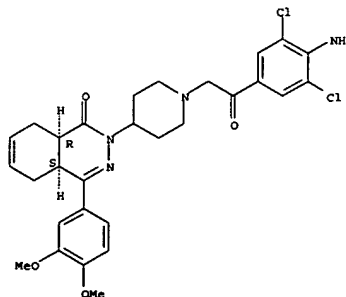
RN 449760-40-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1-methylethyl)-, (9CI) (CA INDEX NAME)

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-48-9 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[1-(2-(4-amino-3,5-dichlorophenyl)-2-oxoethyl)-4-piperidinyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, (4aS,8aR)- (9CI) (CA INDEX NAME)

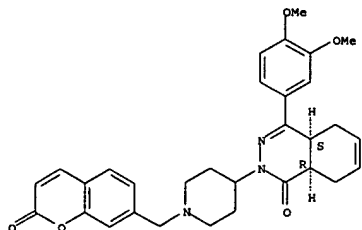
Absolute stereochemistry.



RN 449760-49-0 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

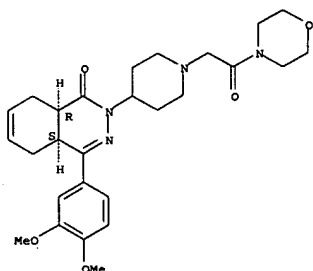
Absolute stereochemistry.

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-50-3 CAPLUS
CN Morpholine,
4-{[4-(4A8,8A8)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-
1-oxo-2(1H)-phthalazinyl]-1-piperidinyl}acetyl)- (9CI) (CA INDEX NAME)

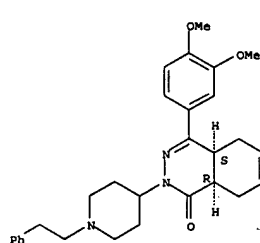
Absolute stereochemistry.



RN 449760-51-4 CAPLUS
CN 1(2H)-Phthalazinone,
4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-
phenylethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

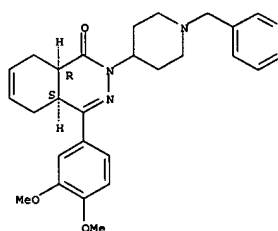
Absolute stereochemistry.

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-52-5 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(3-
 pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

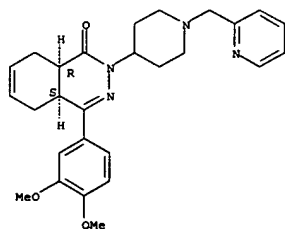
Absolute stereochemistry.



RN 449760-53-6 CAPLUS
CN 1(2H)-Phthalazinone,
4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-
pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

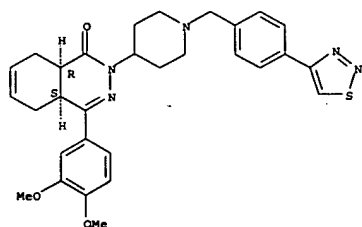
Absolute stereochemistry.

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-56-9 CAPLUS
CN 1(2H)-Phthalazinone,
4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[4-(
1,2,3-thiadiazol-4-yl)phenyl)methyl]-4-piperidinyl]-, (4aS,8aR)- (9CI)
(CA INDEX NAME)

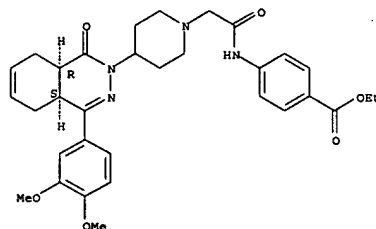
Absolute stereochemistry.



RN 449760-57-0 CAPLUS
CN Benzoic acid, 4-[[[4-[[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2[1H]-phthalazinyl]-1-piperidinyl]acetyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

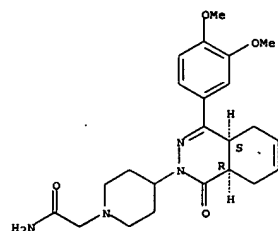
Absolute stereochemistry.

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



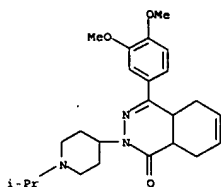
RN 449760-58-1 CAPLUS
CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



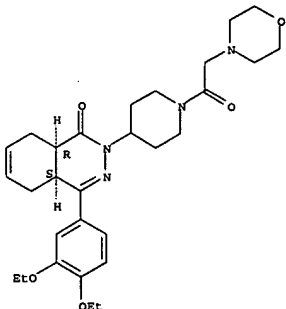
RN 596102-01-1 CAPLUS
CN 1(2H)-Phthalazinone,
4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-
methylethoxy)-4-piperidiny]- (9CI) (CA INDEX NAME)

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 596102-07-7 CAPLUS
CN Piperidine,
4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-
2(1H)-phthalazinyl]-1-(4-morpholinylacetyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 596102-09-9 CAPLUS
CN Piperidine,
4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-
2(1H)-phthalazinyl]-1-[[4-(dimethylamino)ethyl]-1-piperazinyl]acetyl]-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.

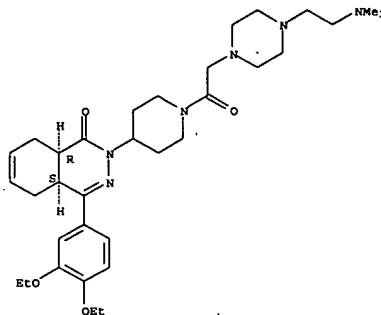
L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:1036929 CAPLUS
DOCUMENT NUMBER: 142:16825
TITLE: Composition comprising a PDE4 inhibitor and a PDE5 inhibitor
INVENTOR(S): Dunkern, Thorsten; Hatzelmann, Armin; Schudt, Christian; Grimminger, Friedrich; Ghofrani, Hossein Ardeschir
PATENT ASSIGNEE(S): Altana Pharma A.-G., Germany
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004/103407	A2	20041202	WO 2004-EP50869	20040519
WO 2004/103407	A3	20050217		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RM:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CP, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2004241749	A1	20041202	AU 2004-241749	20040519
CA 2525946	A1	20041202	CA 2004-2525946	20040519
EP 1628682	A2	20060301	EP 2004-766017	20040519
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, PI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK			
HR				
BR 2004010326	A	20060523	BR 2004-10326	20040519
CN 1791429	A	20060621	CN 2004-80013349	20040519
JP 2006528229	T	20061214	JP 2006-530210	20040519
US 2006094723	A1	20060504	US 2005-556888	20051115
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PRIORITY APPLN. INFO.:			EP 2003-11609	A 20030522
			WO 2004-EP50869	W 20040519

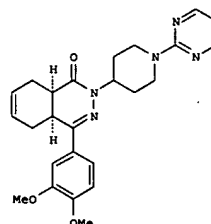
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L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



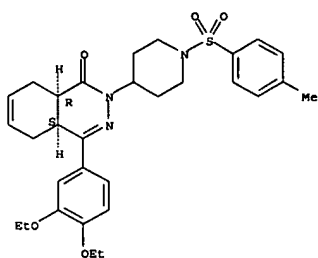
AB The invention relates to the combined administration of a PDE4 inhibitor and a PDE5 inhibitor for the treatment of a disease in which phosphodiesterase 4 (PDE4) and/or phosphodiesterase 5 (PDE5) activity is detrimental. Patients were administered orally one tablet of Roflumilast and once daily a tablet of Viagra. An example of another selected PDE4 inhibitor is I.

IT 449760-14-9 449760-15-0 449760-16-1
449760-17-2 449760-19-4 449760-20-7
449760-21-8 449760-22-9 449760-23-0
449760-24-1 449760-25-2 449760-26-3
449760-27-4 449760-28-5 449760-29-6
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449760-40-1 449760-42-3 449760-47-8
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449760-53-6 449760-54-7 449760-55-8
449760-56-9 449760-57-0 449760-58-1
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(composition comprising a PDE4 inhibitor and a PDE5 inhibitor)

RN 449760-14-9 CAPLUS
CN Piperidine,
4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-
2(1H)-phthalazinyl]-1-[[4-methylphenyl]sulfonyl]- (9CI) (CA INDEX NAME)

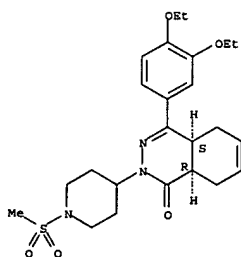
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-15-0 CAPLUS
 CN Piperidine,
 4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(methylsulfonyl)- (9CI) (CA INDEX NAME)

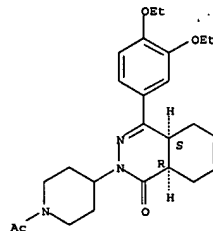
Absolute stereochemistry.



RN 449760-16-1 CAPLUS
 CN Piperidine, 1-acetyl-4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

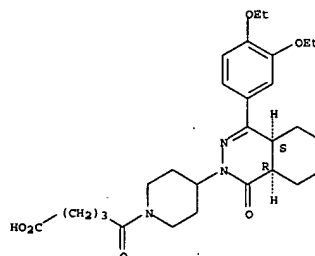
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-17-2 CAPLUS
 CN 1-Piperidinepentanoic acid,
 4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-5-oxo- (9CI) (CA INDEX NAME)

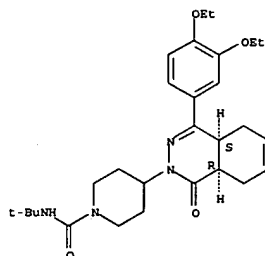
Absolute stereochemistry.



RN 449760-19-4 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

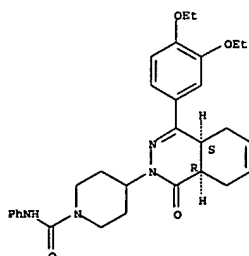
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-20-7 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-phenyl- (9CI) (CA INDEX NAME)

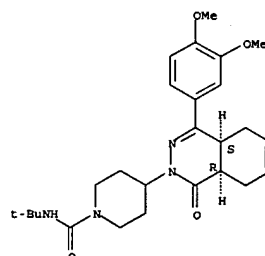
Absolute stereochemistry.



RN 449760-21-8 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

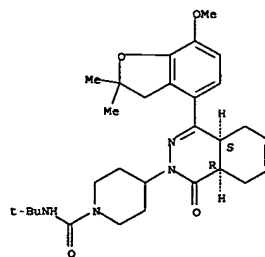
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-22-9 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-[(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)-, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

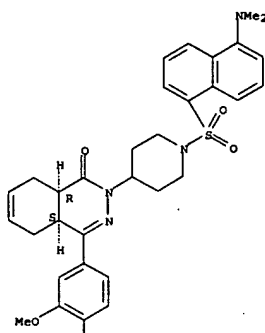


RN 449760-23-0 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[5-(dimethylamino)-1-naphthalenyl]sulfonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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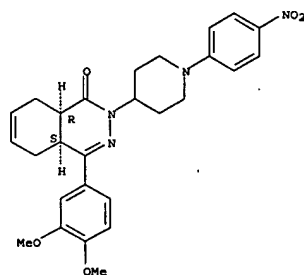


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RN 449760-24-1 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-nitrophenyl)-4-piperidinyl]-)- (4aS,8aR)- (9CI) (CA INDEX NAME)

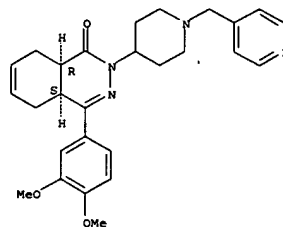
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-25-2 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-pyridinylmethyl)-4-piperidinyl]-)- (4aS,8aR)- (9CI) (CA INDEX NAME)

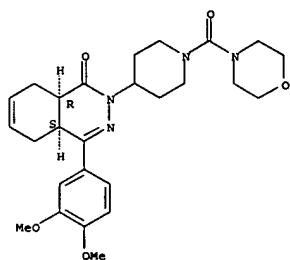
Absolute stereochemistry.



RN 449760-26-3 CAPLUS
 CN Morpholine,
 4-[[4-[[4aS,8aR)-4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)

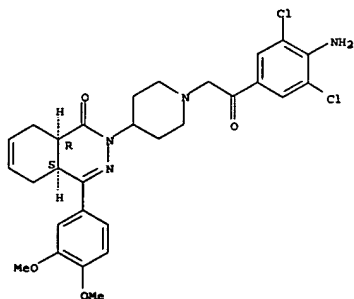
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-27-4 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[1-((4-amino-3,5-dichlorophenyl)-2-oxoethyl)-4-piperidinyl]-4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)- (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

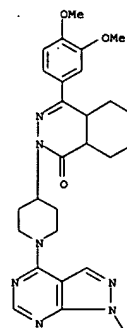


RN 449760-28-5 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-methyl-1H-pyrazolo[3,4-d]pyrimidin-4-yl)-4-piperidinyl]-)- (9CI) (CA INDEX NAME)

● HCl

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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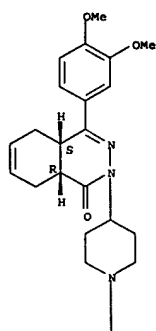
PAGE 2-A

RN 449760-29-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-thieno[2,3-d]pyrimidin-4-yl)-4-piperidinyl]-)- (4aS,8aR)- (9CI) (CA INDEX NAME)

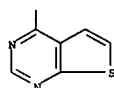
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



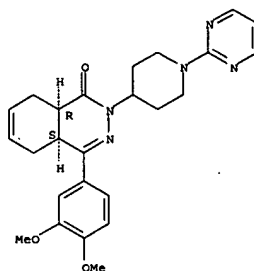
PAGE 2-A



RN 449760-30-9 CAPLUS
CN 1(2H)-Phthalazinone,
4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-pyrimidinyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

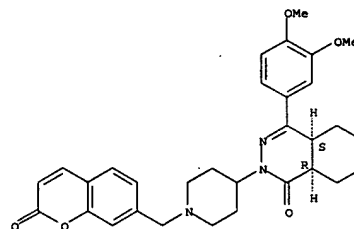
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-31-0 CAPLUS
CN 1(2H)-Phthalazinone,
4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

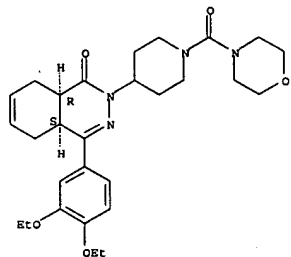


● HCl

RN 449760-35-4 CAPLUS
CN Morpholine,
4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-

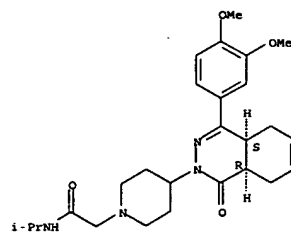
L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 449760-40-1 CAPLUS
CN 1-Piperidineacetamide, 4-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1-methylethyl)- (9CI) (CA INDEX NAME)

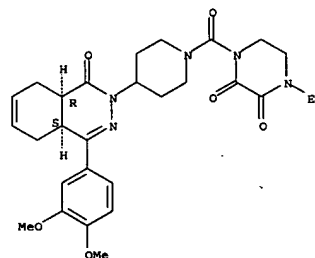
Absolute stereochemistry.



RN 449760-42-3 CAPLUS
CN 2,3-Piperazinedione, 1-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]-4-ethyl- (9CI) (CA INDEX NAME)

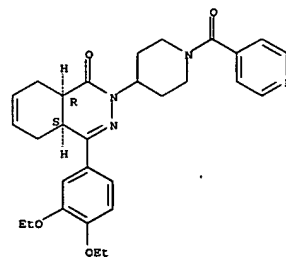
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-47-8 CAPLUS
CN Piperidine,
4-[[4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(4-pyridinyl)carbonyl]- (9CI) (CA INDEX NAME)

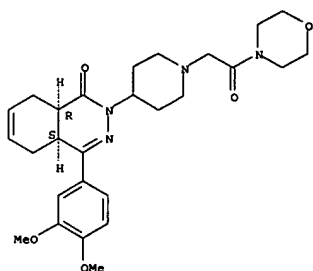
Absolute stereochemistry.



RN 449760-50-3 CAPLUS
CN Morpholine,
4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

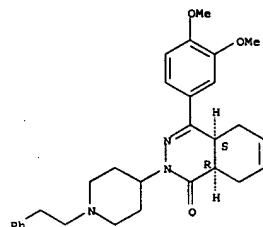
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-51-4 CAPLUS
CN 1(2H)-Phthalazinone,
4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-phenylethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

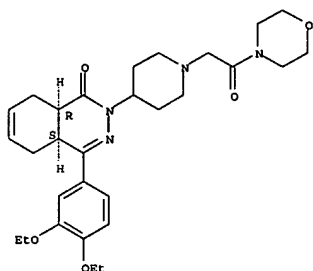
Absolute stereochemistry.



RN 449760-52-5 CAPLUS
CN 1(2H)-Phthalazinone,
4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(3-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

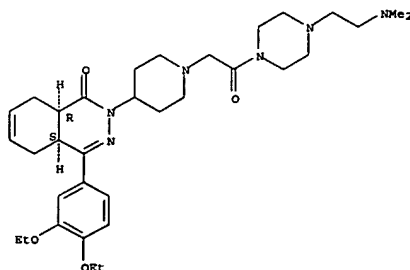
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-55-8 CAPLUS
CN 1-Piperazineethanamine,
4-[[4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-N,N-dimethyl-1-piperazineethanamine, (9CI) (CA INDEX NAME)

Absolute stereochemistry.

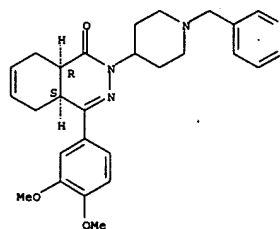


RN 449760-56-9 CAPLUS
CN 1(2H)-Phthalazinone,
4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(1,2,3-thiadiazol-4-yl)phenyl]methyl]-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

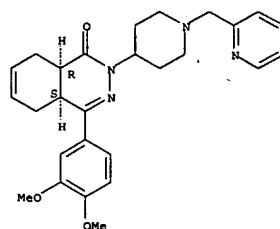
Habte

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-53-6 CAPLUS
CN 1(2H)-Phthalazinone,
4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

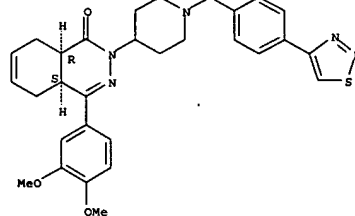
Absolute stereochemistry.



RN 449760-54-7 CAPLUS
CN Morpholine,
4-[[4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-N,N-dimethyl-1-piperazineethanamine, (9CI) (CA INDEX NAME)

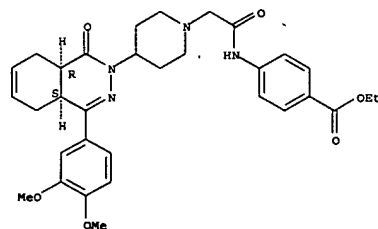
Absolute stereochemistry.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-57-0 CAPLUS
CN Benzoic acid, 4-[[4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

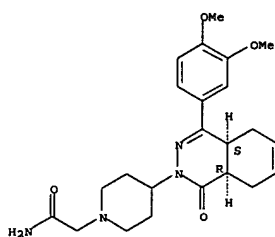


RN 449760-58-1 CAPLUS
CN 1-Piperidineacetamide, 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-N,N-dimethyl-1-piperazineethanamine, (9CI) (CA INDEX NAME)

Absolute stereochemistry.

02/09/2007

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:996001 CAPLUS
 DOCUMENT NUMBER: 141:406065
 TITLE: Composition comprising a PDE-4 inhibitor and a TNF-alpha antagonist
 INVENTOR(S): Barsig, Johannes; Weimar, Christian
 PATENT ASSIGNEE(S): Altana Pharma AG, Germany
 SOURCE: PCT Int. Appl., 29 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004098633	A1	20041118	WO 2004-EP50748	20040510
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MM, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: EP 2003-10581 A 20030512

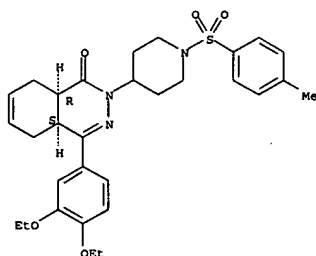
AB The invention relates to the combined administration of a PDE4 inhibitor and a TNFα antagonist selected from the group consisting of etanercept, onercept and pegasercept for the treatment of a disease in which phosphodiesterase 4 (PDE4) and/or tumor necrosis factor alpha (TNFα) activity is detrimental.

IT 449760-14-9 449760-15-0 449760-16-1
 449760-17-2 449760-19-4 449760-20-7
 449760-21-8 449760-22-9 449760-23-0
 449760-24-1 449760-25-2 449760-26-3
 449760-28-5 449760-29-6 449760-30-9
 449760-35-4 449760-40-1 449760-42-3
 449760-47-8 449760-48-9 449760-49-0
 449760-50-3 449760-51-4 449760-52-5
 449760-53-6 449760-54-7 449760-55-8
 449760-56-9 449760-57-0 449760-58-1
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (therapeutic activity of phosphodiesterase 4 inhibitors and TNFα antagonists)

RN 449760-14-9 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(4-methylphenyl)sulfonyl]- (9CI) (CA INDEX NAME)

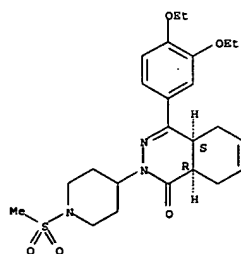
Absolute stereochemistry.

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-15-0 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(methylsulfonyl)- (9CI) (CA INDEX NAME)

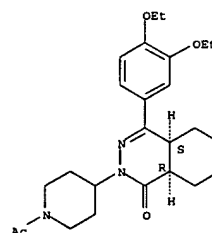
Absolute stereochemistry.



RN 449760-16-1 CAPLUS
 CN Piperidine, 1-acetyl-4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

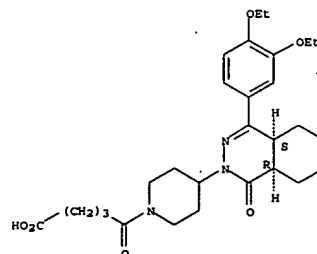
Absolute stereochemistry.

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-17-2 CAPLUS
 CN 1-Piperidinepentanoic acid, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-5-oxo- (9CI) (CA INDEX NAME)

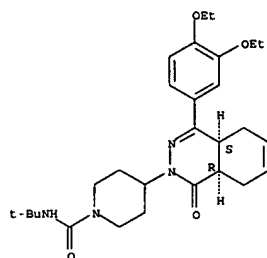
Absolute stereochemistry.



RN 449760-19-4 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

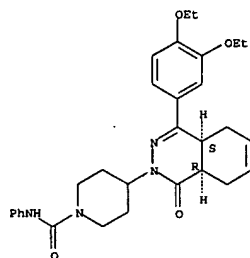
Absolute stereochemistry.

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-20-7 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-phenyl- (9CI) (CA INDEX NAME)

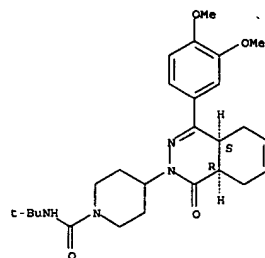
Absolute stereochemistry.



RN 449760-21-8 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-[1,1-dimethylethyl]- (9CI) (CA INDEX NAME)

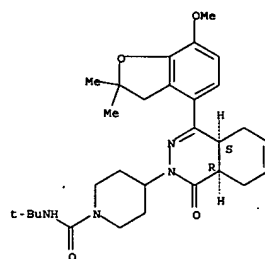
Absolute stereochemistry.

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-22-9 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)-, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

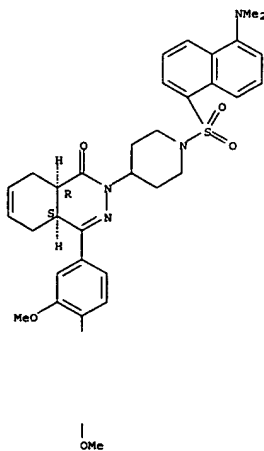


RN 449760-23-0 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(5-(dimethylamino)-1-naphthalenyl)sulfonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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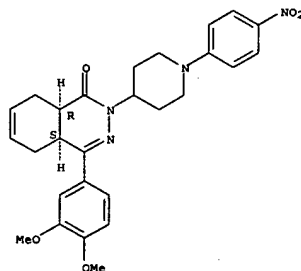


RN 449760-24-1 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-nitrophenyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

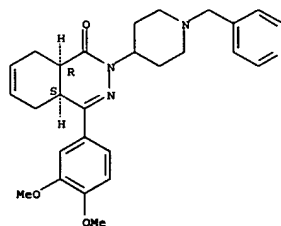
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L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-25-2 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

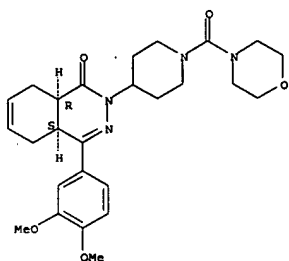
Absolute stereochemistry.



RN 449760-26-3 CAPLUS
 CN Morpholine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinylcarbonyl- (9CI) (CA INDEX NAME)

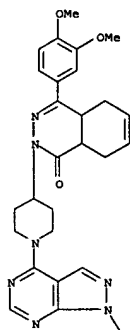
Absolute stereochemistry.

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



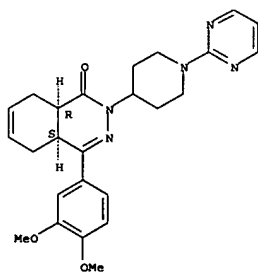
RN 449760-28-5 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(1-(1-methyl-1H-pyrazolo[3,4-d]pyrimidin-4-yl)-4-piperidinyl)- (9CI) (CA INDEX NAME)

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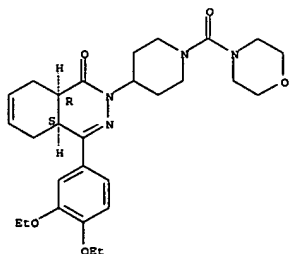
L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(1-(2-pyrimidinyl)-4-piperidinyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 449760-35-4 CAPLUS
 CN Morpholine,
 4-[[4-((4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 449760-40-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[[4a,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1-methylethyl)- (9CI) (CA INDEX NAME)

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

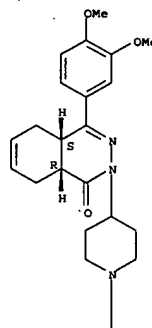
PAGE 2-A



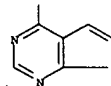
RN 449760-29-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(1-thieno[2,3-d]pyrimidin-4-yl)-4-piperidinyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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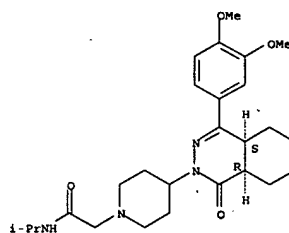


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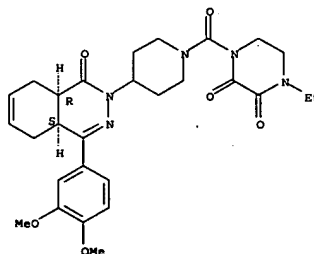
RN 449760-30-9 CAPLUS

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 Absolute stereochemistry.



RN 449760-42-3 CAPLUS
 CN 2,3-Piperazinedione, 1-[[4-((4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)-1-piperidinyl]carbonyl]-4-ethyl- (9CI) (CA INDEX NAME)

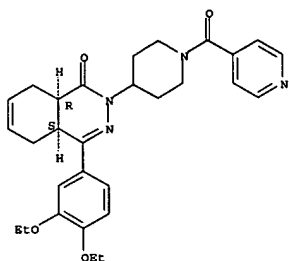
Absolute stereochemistry.



RN 449760-47-8 CAPLUS
 CN Piperidine,
 4-[[4a,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(4-pyridinyl)carbonyl]- (9CI) (CA INDEX NAME)

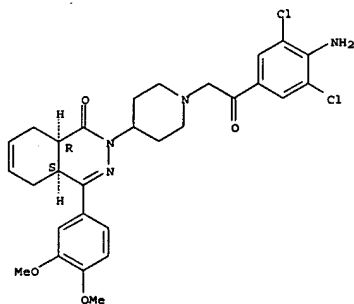
Absolute stereochemistry.

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS ON STN (Continued)



RN 449760-48-9 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[1-[2-(4-amino-3,5-dichlorophenyl)-2-oxoethyl]-4-piperidinyl]-4-[3,4-dimethoxyphenyl]-4a,5,8,8a-tetrahydro-, (4aS,8aR)-(9CI) (CA INDEX NAME)

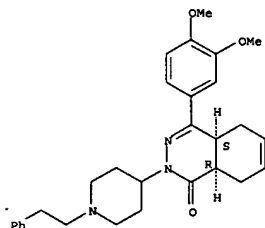
Absolute stereochemistry.



RN 449760-49-0 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[3,4-dimethoxyphenyl]-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)-(9CI) (CA INDEX NAME)

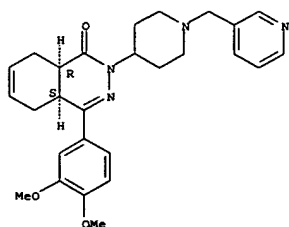
L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS ON STN (Continued)

Absolute stereochemistry.



RN 449760-52-5 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[3,4-dimethoxyphenyl]-4a,5,8,8a-tetrahydro-2-[1-(3-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



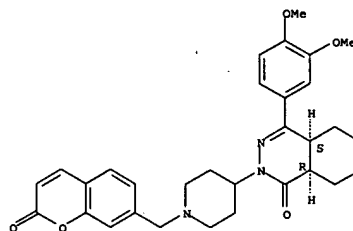
RN 449760-53-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[3,4-dimethoxyphenyl]-4a,5,8,8a-tetrahydro-2-[1-(3-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS ON STN (Continued)

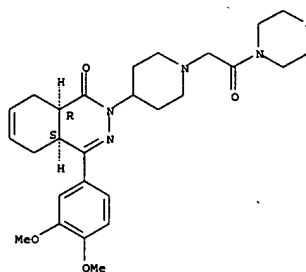
INDEX NAME)

Absolute stereochemistry.



RN 449760-50-3 CAPLUS
 CN Morpholine, 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

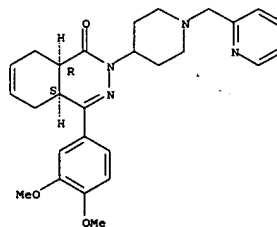
Absolute stereochemistry.



RN 449760-51-4 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[3,4-dimethoxyphenyl]-4a,5,8,8a-tetrahydro-2-[1-(2-phenylethyl)-4-piperidinyl]-, (4aS,8aR)-(9CI) (CA INDEX NAME)

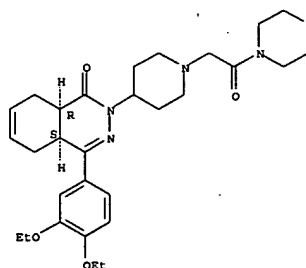
L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS ON STN (Continued)

Absolute stereochemistry.



RN 449760-54-7 CAPLUS
 CN Morpholine, 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

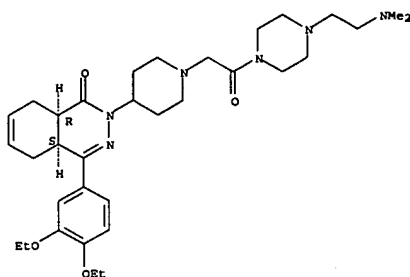
Absolute stereochemistry.



RN 449760-55-8 CAPLUS
 CN 1-Piperazineethanamine, 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)

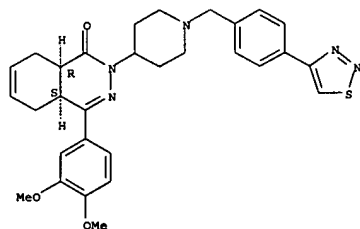
Absolute stereochemistry.

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-56-9 CAPLUS
 CN 1-(2H)-Phthalazinone,
 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[[1-[(4-(1,2,3-thiadiazol-4-yl)phenyl)methyl]-4-piperidinyl]-, (4a,5,8aR)- (9CI) (CA INDEX NAME)]

Absolute stereochemistry.



RN 449760-57-0 CAPLUS
 CN Benzoic acid, 4-[[[4-[(4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)-1-piperidinyl]acetyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)]

Absolute stereochemistry.

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:995979 CAPLUS
 DOCUMENT NUMBER: 141:406064
 TITLE: Composition comprising a PDE4 inhibitor and soluble human Type II interleukin-1 receptor (shuIL-1RII) for disease therapy
 INVENTOR(S): Barsig, Johannes
 PATENT ASSIGNEE(S): Altana Pharma AG, Germany
 SOURCE: PCT Int. Appl., 24 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004/098606	A1	20041118	WO 2004-EP50749	20040510
W: AS, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SV, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, BG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SM, TD, TG				

PRIORITY APPLN. INFO.: EP 2003-10596 A 20030512

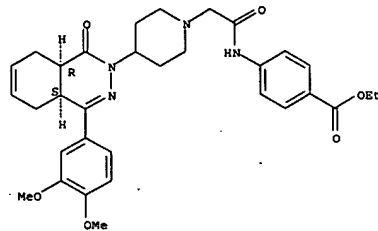
AB The invention relates to the combined administration of a PDE4 inhibitor and shuIL-1R II for the treatment of a disease in which phosphodiesterase 4 (PDE4) and/or interleukin-1 (IL-1) activity is detrimental.

IT 449760-14-9 449760-15-0 449760-16-1
 449760-17-2 449760-19-4 449760-20-7
 449760-21-8 449760-22-9 449760-23-0
 449760-24-1 449760-25-2 449760-26-3
 449760-28-5 449760-29-6 449760-30-9
 449760-35-4 449760-40-1 449760-42-3
 449760-47-8 449760-48-9 449760-49-0
 449760-50-3 449760-51-4 449760-52-5
 449760-53-6 449760-54-7 449760-55-8
 449760-56-9 449760-57-0 449760-58-1
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (composition comprising a PDE4 inhibitor and soluble human Type II interleukin-1 receptor (shuIL-1RII) for disease therapy)

RN 449760-14-9 CAPLUS
 CN Piperidine,
 4-[(4a,5,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(4-methylphenyl)sulfonyl]- (9CI) (CA INDEX NAME)

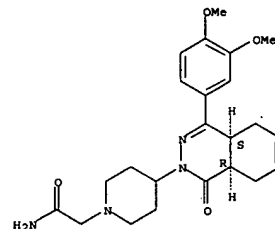
Absolute stereochemistry.

L4 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



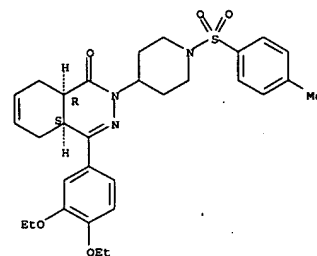
RN 449760-58-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[(4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)- (9CI) (CA INDEX NAME)]

Absolute stereochemistry.



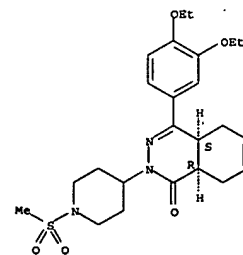
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-15-0 CAPLUS
 CN Piperidine,
 4-[(4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)-1-(methylsulfonyl)- (9CI) (CA INDEX NAME)]

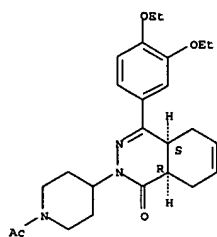
Absolute stereochemistry.



RN 449760-16-1 CAPLUS
 CN Piperidine, 1-acetyl-4-[(4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)- (9CI) (CA INDEX NAME)]

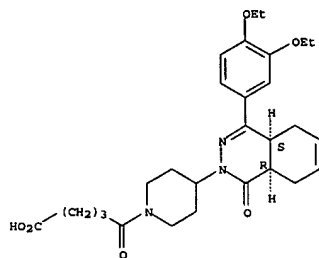
Absolute stereochemistry.

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-17-2 CAPLUS
 CN 1-Piperidinepentanoic acid,
 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-
 tetrahydro-1-oxo-2(1H)-phthalazinyl]-6-oxo- (9CI) (CA INDEX NAME)

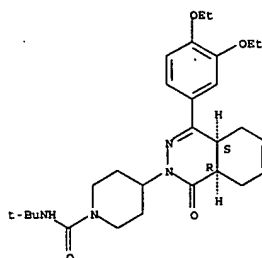
Absolute stereochemistry.



RN 449760-19-4 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-
 tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA
 INDEX NAME)

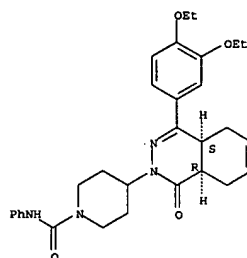
Absolute stereochemistry.

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-20-7 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-
 tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-phenyl- (9CI) (CA INDEX NAME)

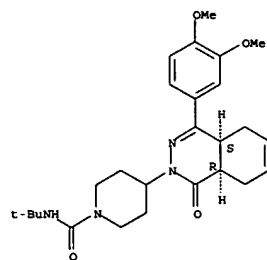
Absolute stereochemistry.



RN 449760-21-8 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-
 tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA
 INDEX NAME)

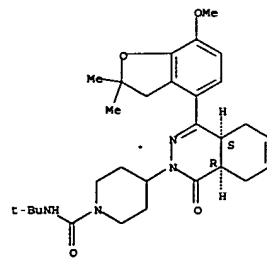
Absolute stereochemistry.

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-22-9 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-(2,3-dihydro-7-methoxy-2,2-
 dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-
 (1,1-dimethylethyl)-, rel- (9CI) (CA INDEX NAME)

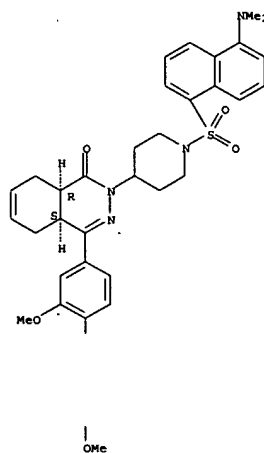
Relative stereochemistry.



RN 449760-23-0 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-
 oxo-2(1H)-phthalazinyl]-1-[[5-(dimethylamino)-1-naphthalenyl]sulfonyl]-
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



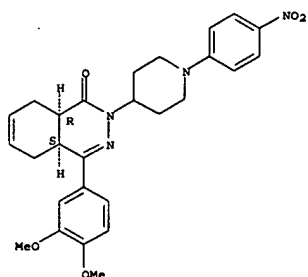
RN 449760-24-1 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-
 nitrophenyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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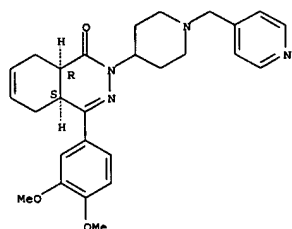
PAGE 2-A

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-25-2 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-pyridinylmethyl)-4-piperidinyl]-)- (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 449760-26-3 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl)- (9CI) (CA INDEX NAME)

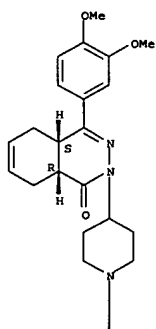
Absolute stereochemistry.

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

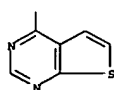
PAGE 2-A

RN 449760-29-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-thieno[2,3-d]pyrimidin-4-yl-4-piperidinyl]-)- (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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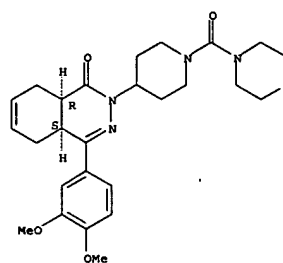


PAGE 2-A

RN 449760-30-9 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-pyrimidinyl)-4-piperidinyl]-)- (4aS,8aR)- (9CI) (CA INDEX NAME)

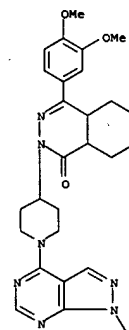
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L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



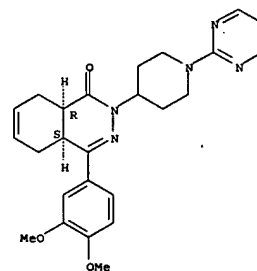
RN 449760-28-5 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-methyl-1H-pyrazolo[3,4-d]pyrimidin-4-yl)-4-piperidinyl]-)- (9CI) (CA INDEX NAME)

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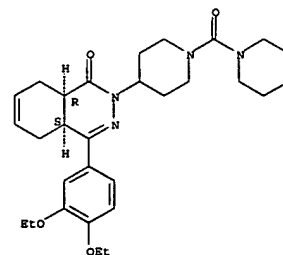
L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.



RN 449760-35-4 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-((3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)-1-piperidinyl]carbonyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

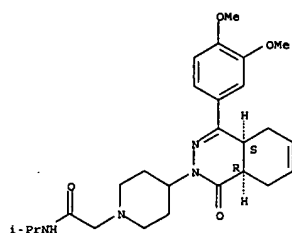


RN 449760-40-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)-N-(1-methylethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

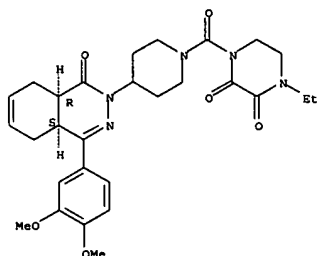
02/09/2007

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-42-3 CAPLUS
 CN 2,3-Piperazinedione, 1-[(4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl)carbonyl]-4-ethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

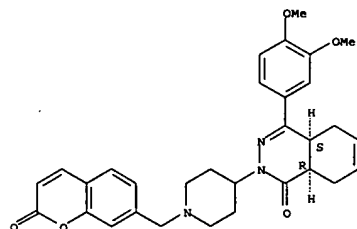


RN 449760-47-8 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(4-pyridinylcarbonyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

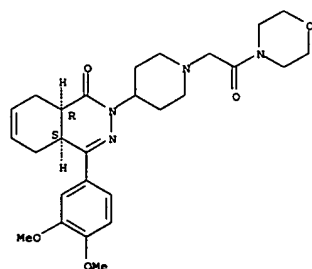
L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.



RN 449760-50-3 CAPLUS
 CN Morpholine, 4-[(4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl)acetyl]- (9CI) (CA INDEX NAME)

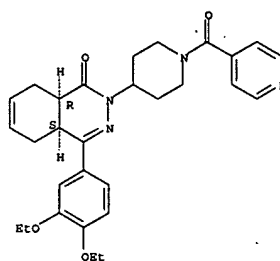
Absolute stereochemistry.



RN 449760-51-4 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-phenylethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

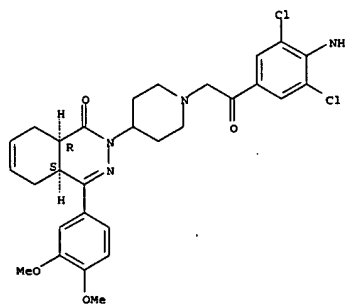
Absolute stereochemistry.

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



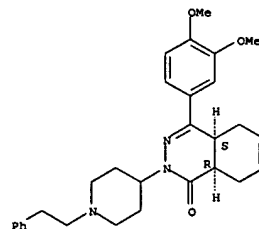
RN 449760-48-9 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[1-[2-(4-amino-3,5-dichlorophenyl)-2-oxoethyl]-4-piperidinyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



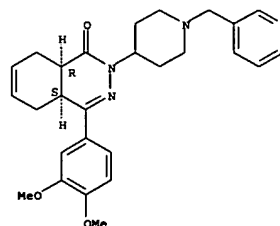
RN 449760-49-0 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-52-5 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(3-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

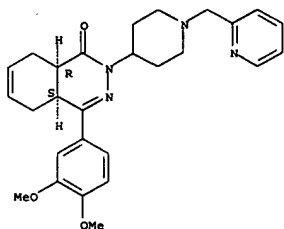
Absolute stereochemistry.



RN 449760-53-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[2-pyridinylmethyl]-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

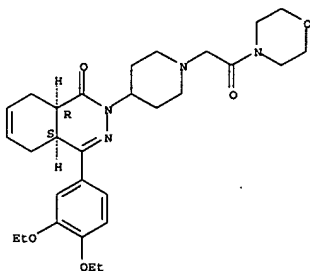
Absolute stereochemistry.

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-54-7 CAPLUS
CN Morpholine,
4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

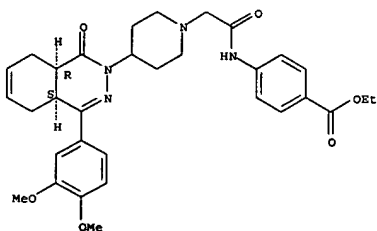
Absolute stereochemistry.



RN 449760-55-8 CAPLUS
CN 1-Piperazineethanamine,
4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)

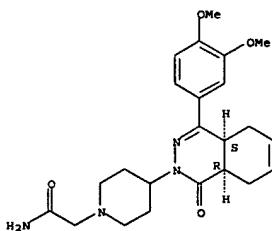
Absolute stereochemistry.

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



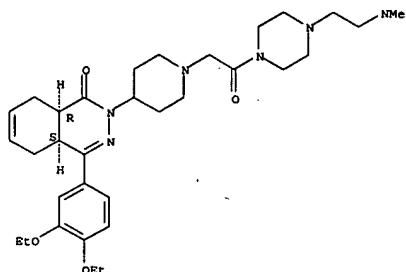
RN 449760-58-1 CAPLUS
CN 1-Piperidineacetamide, 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



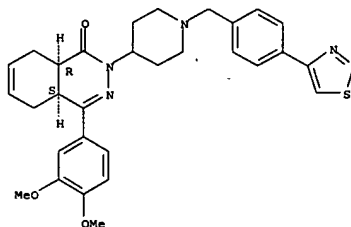
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-56-9 CAPLUS
CN 1(2H)-Phthalazinone,
4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[[4-(1,2,3-thiadiazol-4-yl)phenyl]methyl]-4-piperidinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 449760-57-0 CAPLUS
CN Benzoic acid, 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:995978 CAPLUS
DOCUMENT NUMBER: 141:406063
TITLE: Pharmaceutical composition comprising a PDE4 inhibitor and IL-1 trap for treatment of disease
INVENTOR(S): Barsig, Johannes
PATENT ASSIGNEE(S): Altana Pharma AG, Germany
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

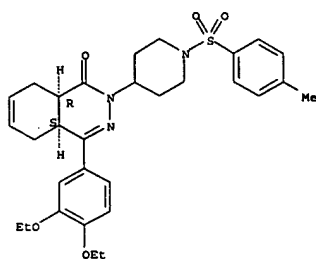
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004098605	A1	20041118	WO 2004-EP50747	20040510
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SV, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRIORITY APPLN. INFO.:			EP 2003-10631	A 20030512

AB The invention relates to the combined administration of a PDE4 inhibitor and IL-1 Trap for the treatment of a disease in which phosphodiesterase 4 (PDE4) and/or interleukin-1 (IL-1) activity is detrimental.

IT 449760-14-9 449760-15-0 449760-16-1
449760-17-2 449760-19-4 449760-20-7
449760-21-8 449760-22-9 449760-23-0
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449760-53-6 449760-54-7 449760-55-8
449760-56-9 449760-57-0 449760-58-1
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmaceutical composition comprising a PDE4 inhibitor and IL-1 trap for treatment of disease)
RN 449760-14-9 CAPLUS
CN Piperidine,
4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[4-methylphenyl]sulfonyl]- (9CI) (CA INDEX NAME)

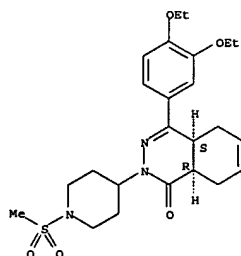
Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-15-0 CAPLUS
 CN Piperidine,
 4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(methylsulfonyl)- (9CI) (CA INDEX NAME)

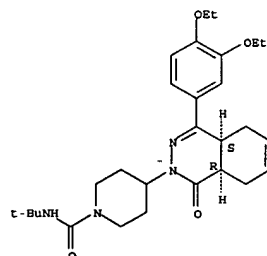
Absolute stereochemistry.



RN 449760-16-1 CAPLUS
 CN Piperidine, 1-acetyl-4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

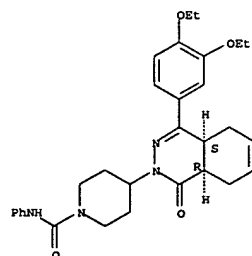
Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-20-7 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-[(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-phenyl]- (9CI) (CA INDEX NAME)

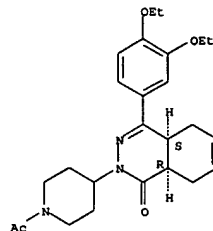
Absolute stereochemistry.



RN 449760-21-8 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-[(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

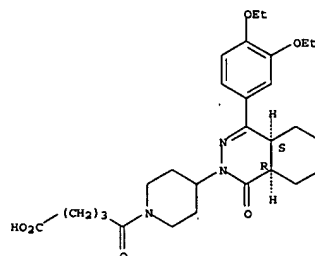
Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-17-2 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-[(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

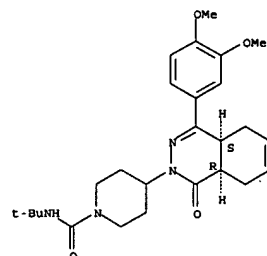
Absolute stereochemistry.



RN 449760-19-4 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-[(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

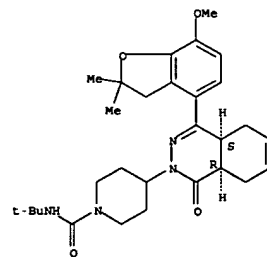
Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-22-9 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-[(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)-, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

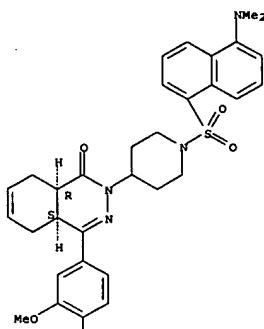


RN 449760-23-0 CAPLUS
 CN Piperidine, 4-[(4aR,8aS)-4-[(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[5-(dimethylamino)-1-naphthalenyl]sulfonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

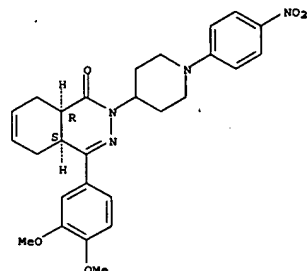
PAGE 1-A



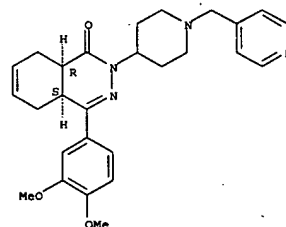
PAGE 2-A

RN 449760-24-1 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-nitrophenyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)
 Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

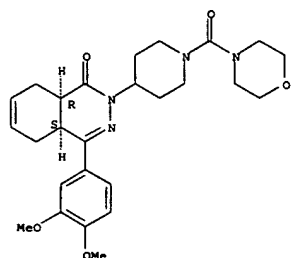


RN 449760-25-2 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)
 Absolute stereochemistry.



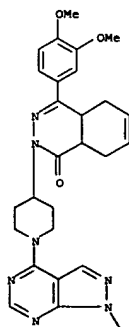
RN 449760-26-3 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-oxo-2(1H)-phthalazinyl)-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)
 Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-28-5 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-methyl-1H-pyrazolo[3,4-d]pyrimidin-4-yl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

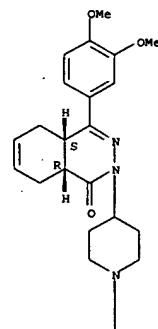


L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

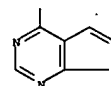
PAGE 2-A

RN 449760-29-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-thieno[2,3-d]pyrimidin-4-yl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)
 Absolute stereochemistry.

PAGE 1-A

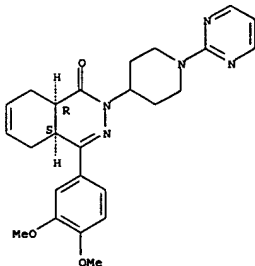


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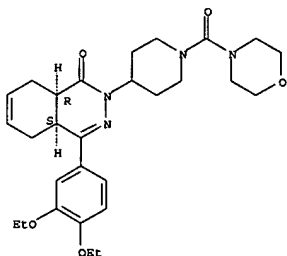
RN 449760-30-9 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-pyrimidinyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)
 Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-35-4 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)

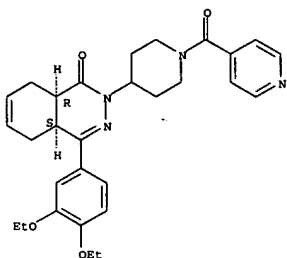
Absolute stereochemistry.



RN 449760-40-1 CAPLUS
 CN 1-Piperidinesacetamide, 4-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1-methylethyl)- (9CI) (CA INDEX NAME)

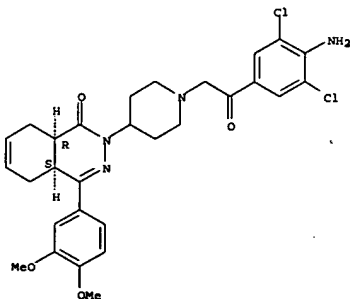
Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-48-9 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[[1-[2-(4-amino-3,5-dichlorophenyl)-2-oxoethyl]-4-piperidinyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

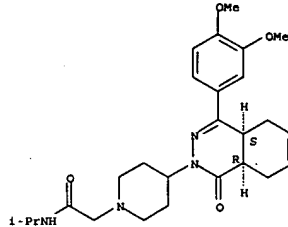


RN 449760-49-0 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

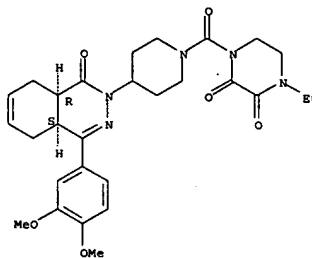
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L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-42-3 CAPLUS
 CN 2,3-Piperazinedione, 1-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]-4-ethyl- (9CI) (CA INDEX NAME)

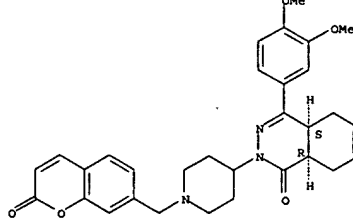
Absolute stereochemistry.



RN 449760-47-8 CAPLUS
 CN Piperidine,
 4-[[4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(4-pyridinylcarbonyl)- (9CI) (CA INDEX NAME)

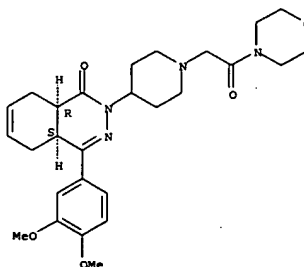
Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-50-3 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

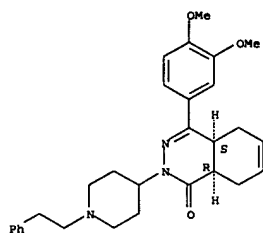


RN 449760-51-4 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-phenylethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

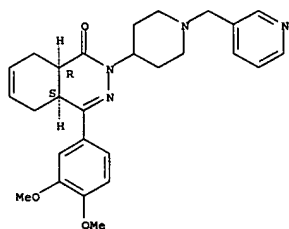
02/09/2007

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-52-5 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(3-
 pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

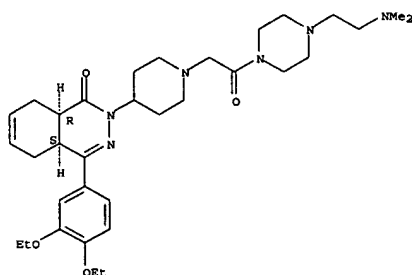
Absolute stereochemistry.



RN 449760-53-6 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-
 pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

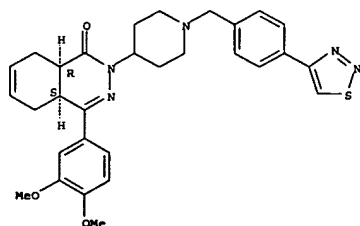
Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-56-9 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[[4-
 (1,2,3-thiadiazol-4-yl)phenyl)methyl]-4-piperidinyl]-, (4aS,8aR)- (9CI)
 (CA INDEX NAME)

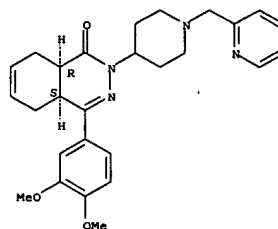
Absolute stereochemistry.



RN 449760-57-0 CAPLUS
 CN Benzoic acid, 4-[[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-
 tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]amino]-, ethyl
 ester (9CI) (CA INDEX NAME)

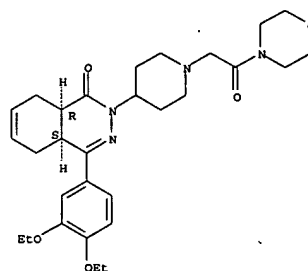
Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-54-7 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-
 oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

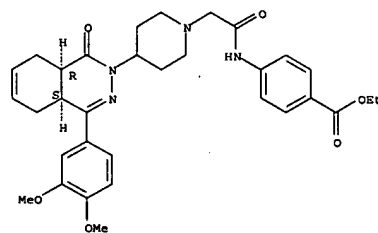
Absolute stereochemistry.



RN 449760-55-8 CAPLUS
 CN 1-Piperazineethanamine,
 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-
 tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-N,N-dimethyl-
 (9CI) (CA INDEX NAME)

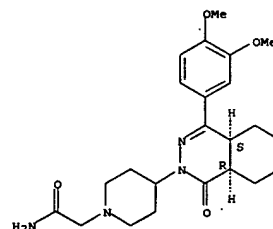
Absolute stereochemistry.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-58-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-
 tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:995956 CAPLUS

DOCUMENT NUMBER: 141:416024

TITLE: Composition comprising a PDE4 inhibitor and a TNF α antagonist

INVENTOR(S): Barsig, Johannes; Weimar, Christian

PATENT ASSIGNEE(S): Altana Pharma AG, Germany

SOURCE: PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004098578	A3	20041118	WO 2004-EP50750	20040510
WO 2004098578	A3	20041229		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RN: BW, GH, GM, KE, LS, MM, MY, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: EP 2003-10593 A 20030512

AB The invention relates to the combined administration of a PDE4 inhibitor and a TNF α antagonist selected from the group consisting of infliximab, adalimumab, cdp870 and cdp571 for the treatment of a disease in which phosphodiesterase 4 (PDE4) and/or tumor necrosis factor alpha (TNF α) activity is detrimental.

IT 449760-14-9 449760-15-0 449760-16-1
449760-17-2 449760-19-4 449760-20-7
449760-21-8 449760-22-9 449760-23-0
449760-24-1 449760-25-2 449760-26-3
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449760-53-6 449760-54-7 449760-55-8
449760-56-9 449760-57-0 449760-58-1

RI: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmaceutical injections containing phosphodiesterase 4 inhibitors

in combination with TNF α antagonists for treatment of arthritis and other diseases)

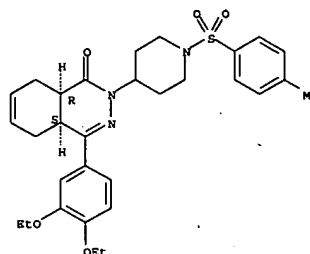
RN 449760-14-9 CAPLUS

CN Piperidine,

4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(4-methylphenyl)sulfonyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.

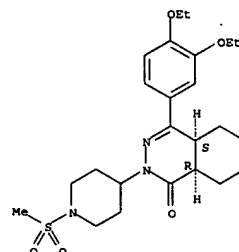


RN 449760-15-0 CAPLUS

CN Piperidine,

4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(methylsulfonyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

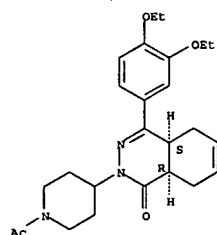


RN 449760-16-1 CAPLUS

CN Piperidine, 1-acetyl-4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

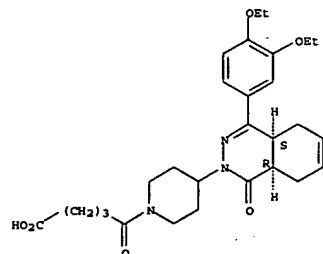


RN 449760-17-2 CAPLUS

CN 1-Piperidinepentanoic acid,

4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-8-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

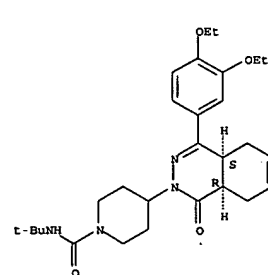


RN 449760-19-4 CAPLUS

CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

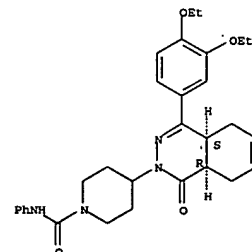
L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-20-7 CAPLUS

CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-phenyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

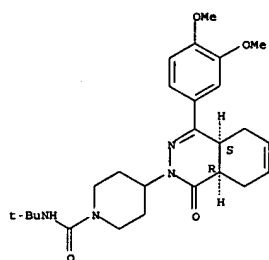


RN 449760-21-8 CAPLUS

CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

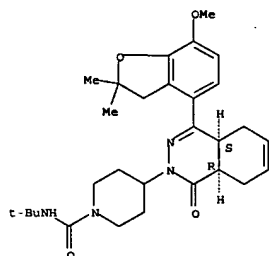
Absolute stereochemistry.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-22-9 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)-, rel- (9CI) (CA INDEX NAME)

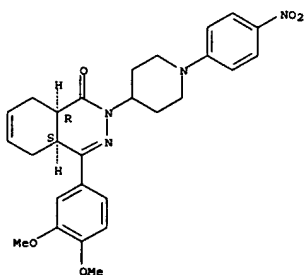
Relative stereochemistry.



RN 449760-23-0 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(5-(dimethylamino)-1-naphthalenyl)sulfonyl]- (9CI) (CA INDEX NAME)

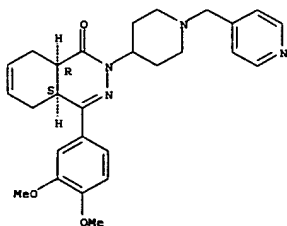
Absolute stereochemistry.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-25-2 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

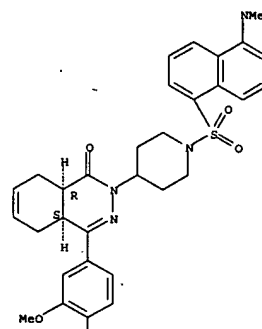


RN 449760-26-3 CAPLUS
 CN Morpholine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

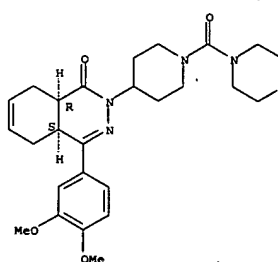


PAGE 2-A

RN 449760-24-1 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-nitrophenyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

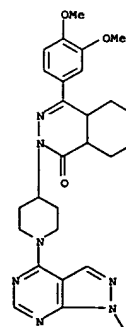
Absolute stereochemistry.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-28-5 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-methyl-1H-pyrazolo[3,4-d]pyrimidin-4-yl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

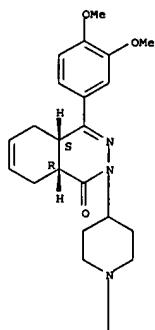


L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

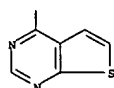
PAGE 2-A

RN 449760-29-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(1-thieno[2,3-d]pyrimidin-4-yl-4-piperidinyl)-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



PAGE 1-A

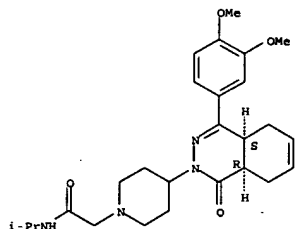


PAGE 2-A

RN 449760-30-9 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-

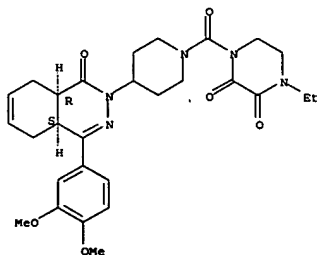
L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.



RN 449760-42-3 CAPLUS
 CN 2,3-Piperazinedione, 1-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]-4-ethyl-, (9CI) (CA INDEX NAME)

Absolute stereochemistry.



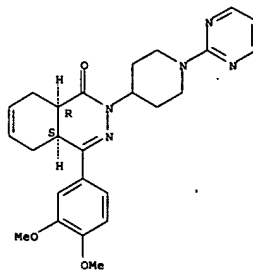
RN 449760-47-8 CAPLUS
 CN Piperidine, 4-[[4a,5,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(4-pyridinylcarbonyl)-, (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

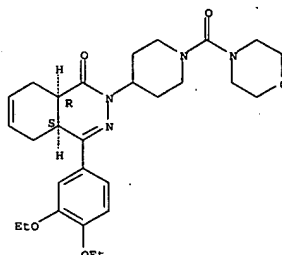
pyrimidinyl]-4-piperidinyl)-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



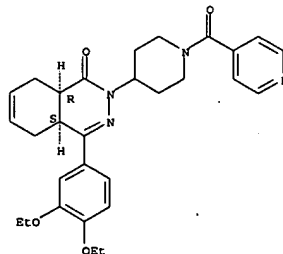
RN 449760-35-4 CAPLUS
 CN Morpholine, 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]-, (9CI) (CA INDEX NAME)

Absolute stereochemistry.



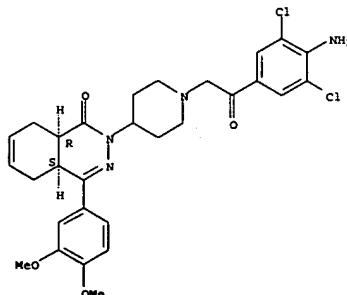
RN 449760-40-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[[4a,5,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1-methylethyl)-, (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-48-9 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[1-[2-(4-amino-3,5-dichlorophenyl)-2-oxoethyl]-4-piperidinyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, (4aS,8aR)- (9CI) (CA INDEX NAME)

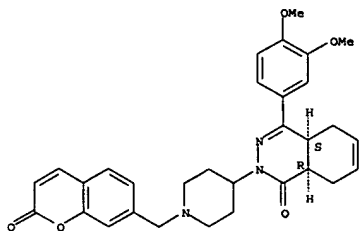
Absolute stereochemistry.



RN 449760-49-0 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

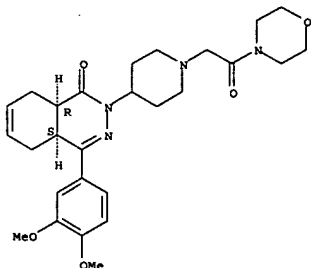
Absolute stereochemistry.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-50-3 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

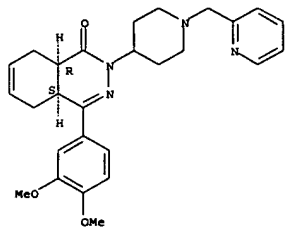
Absolute stereochemistry.



RN 449760-51-4 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-phenylethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

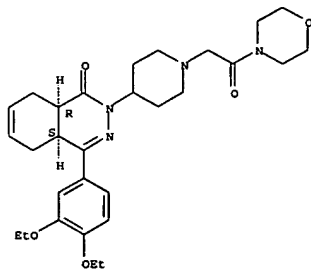
Absolute stereochemistry.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-54-7 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

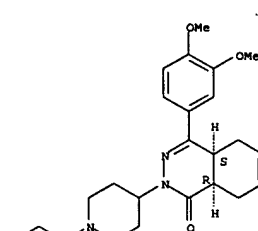
Absolute stereochemistry.



RN 449760-55-8 CAPLUS
 CN 1-Piperazineethanamine,
 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)

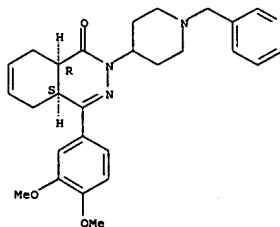
Absolute stereochemistry.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-52-5 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(3-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

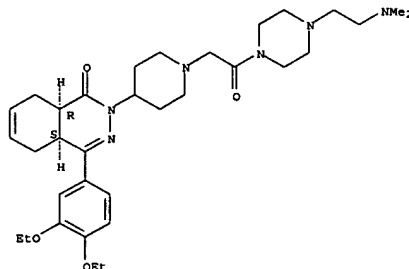
Absolute stereochemistry.



RN 449760-53-6 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

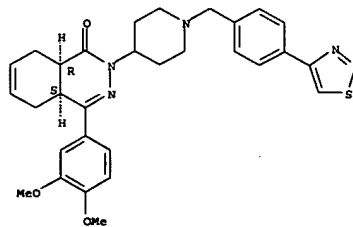
Absolute stereochemistry.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-56-9 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[[4-(1,2,3-thiadiazol-4-yl)phenyl]methyl]-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

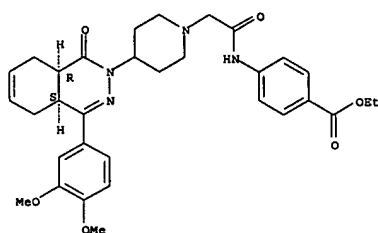
Absolute stereochemistry.



RN 449760-57-0 CAPLUS
 CN Benzoic acid, 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

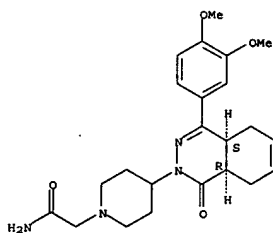
Absolute stereochemistry.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-58-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

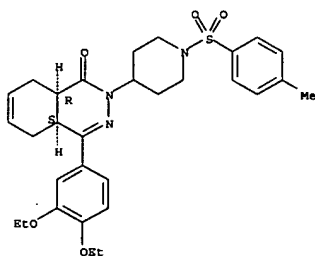
Absolute stereochemistry.



L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 lymphoid cells in combination with differentiation inducers and agents that increase cAMP levels or cAMP analogs)

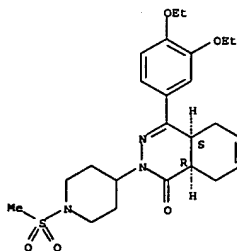
RN 449760-14-9 CAPLUS
 CN Piperidine,
 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(4-methylphenyl)sulfonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 449760-15-0 CAPLUS
 CN Piperidine,
 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(methanesulfonyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 449760-16-1 CAPLUS
 CN Piperidine, 1-acetyl-4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

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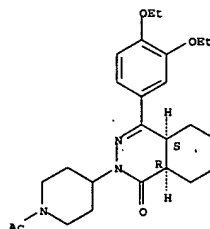
L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:610086 CAPLUS
 DOCUMENT NUMBER: 141:134069
 TITLE: PDE4 inhibitors for the treatment of neoplasms of lymphoid cells
 INVENTOR(S): Hatzelmann, Armin; Tenor, Hermann; Gekeler, Volker; Sanders, Karl; Garattini, Enrico; Braunger, Juergen; Schudt, Christian
 PATENT ASSIGNEE(S): Altana Pharma Ag, Germany
 SOURCE: PCT Int. Appl., 78 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004062671	A2	20040729	WO 2004-EP196	20040114
WO 2004062671	A3	20050127		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ			
AU 2004204355	A1	20040729	AU 2004-204355	20040114
CA 2512819	A1	20040729	CA 2004-2512819	20040114
EP 1587512	A2	20051026	EP 2004-701902	20040114
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
JP 2006515367	T	20060525	JP 2006-500561	20040114
US 2006148804	A1	20060706	US 2005-542088	20050713
PRIORITY APPLN. INFO.:			EP 2003-787	A 20030114
			WO 2004-EP196	W 20040114

OTHER SOURCE(S): MARPAT 141:134069
 AB The invention relates to the use of certain PDE4 inhibitors alone or in combination with one or more differentiation inducing agents and/or an agent effective in raising intracellular concns. of cAMP or a stable analog of cAMP in the preparation of pharmaceutical compns. for the treatment of neoplasms of lymphoid cells.
 IT 449760-14-9 449760-15-0 449760-16-1
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 449760-53-6 449760-56-9 449760-57-0
 449760-58-1 596102-01-1 596102-07-7
 596102-09-9
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (phosphodiesterase 4 (PDE4) inhibitors for treatment of neoplasms of

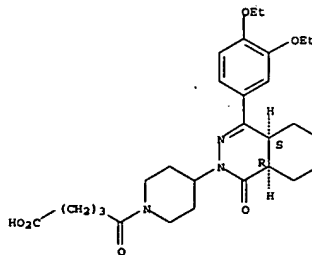
L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.



RN 449760-17-2 CAPLUS
 CN 1-Piperidinepentanoic acid,
 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-8-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

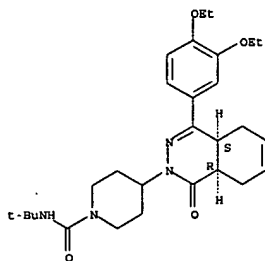


RN 449760-19-4 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

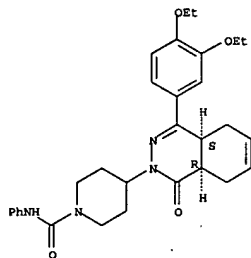
02/09/2007

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-20-7 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-phenyl- (9CI) (CA INDEX NAME)

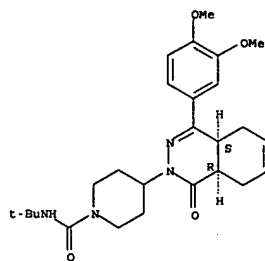
Absolute stereochemistry.



RN 449760-21-8 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

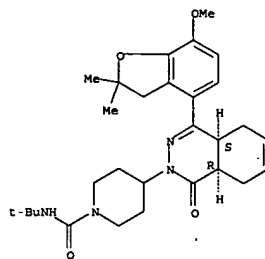
Absolute stereochemistry.

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-22-9 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)-, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

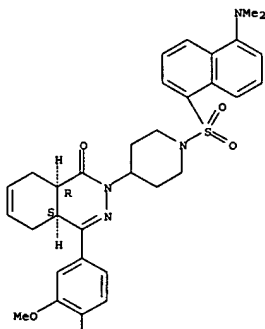


RN 449760-23-0 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[5-(dimethylamino)-1-naphthalenyl]sulfonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

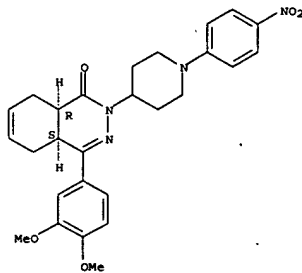


PAGE 2-A

RN 449760-24-1 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-nitrophenyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

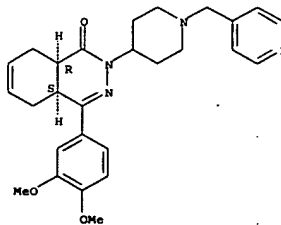
Absolute stereochemistry.

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-25-2 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

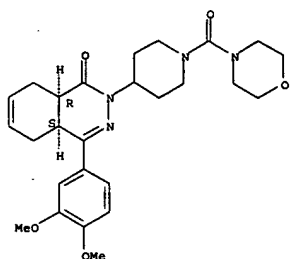
Absolute stereochemistry.



RN 449760-26-3 CAPLUS
 CN Morpholine, 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)

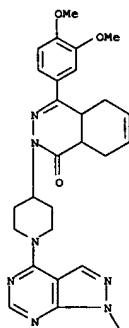
Absolute stereochemistry.

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



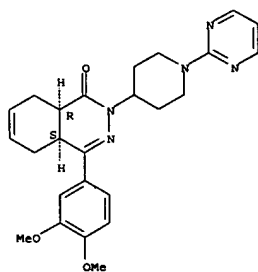
RN 449760-28-5 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-methyl-1H-pyrazolo[3,4-d]pyrimidin-4-yl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

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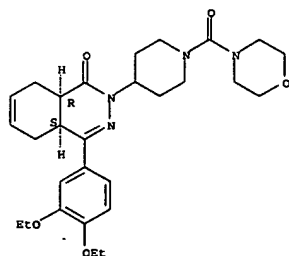
L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 CN 1(2H)-Phthalazinone,
 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-pyrimidinyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 449760-35-4 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 449760-40-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1-methylethyl)- (9CI) (CA INDEX NAME)

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

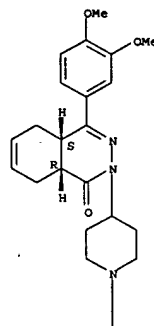
PAGE 2-A



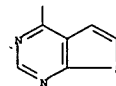
RN 449760-29-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-thieno[2,3-d]pyrimidin-4-yl)-4-piperidinyl]- (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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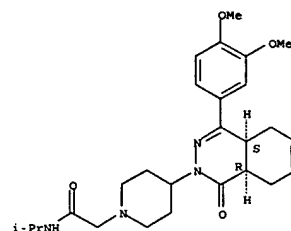


PAGE 2-A



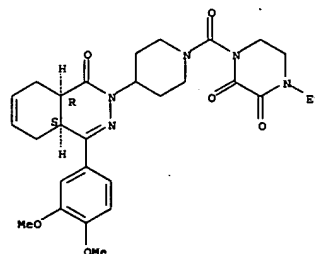
RN 449760-30-9 CAPLUS

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 Absolute stereochemistry.



RN 449760-42-3 CAPLUS
 CN 2,3-Piperazinedione, 1-[[4-[(4aS,8aR)-4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]-4-ethyl- (9CI) (CA INDEX NAME)

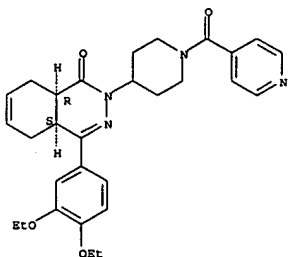
Absolute stereochemistry.



RN 449760-47-8 CAPLUS
 CN Piperidine,
 4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(4-pyridinyl)carbonyl]- (9CI) (CA INDEX NAME)

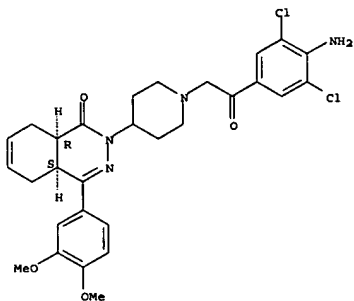
Absolute stereochemistry.

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-48-9 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[1-[2-(4-amino-3,5-dichlorophenyl)-2-oxoethyl]-4-piperidinyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, (4aS,8aR)-(9CI) (CA INDEX NAME)

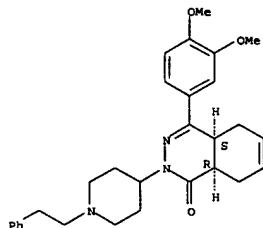
Absolute stereochemistry.



RN 449760-49-0 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)-(9CI) (CA INDEX NAME)

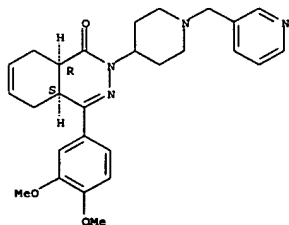
L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.



RN 449760-52-5 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

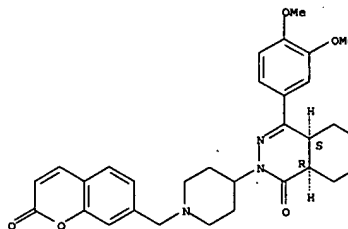


RN 449760-53-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

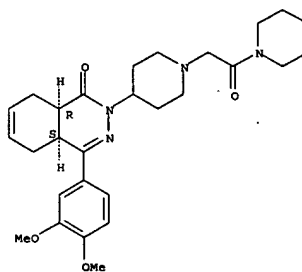
L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.



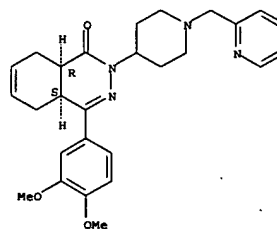
RN 449760-50-3 CAPLUS
 CN Morpholine, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



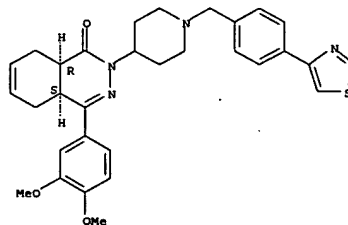
RN 449760-51-4 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)-(9CI) (CA INDEX NAME)

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-56-9 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)-(9CI) (CA INDEX NAME)

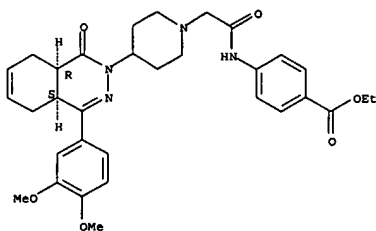
Absolute stereochemistry.



RN 449760-57-0 CAPLUS
 CN Benzoic acid, 4-[[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

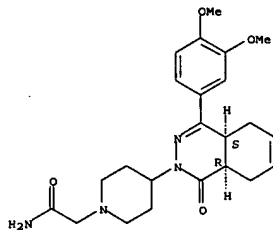
Absolute stereochemistry.

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



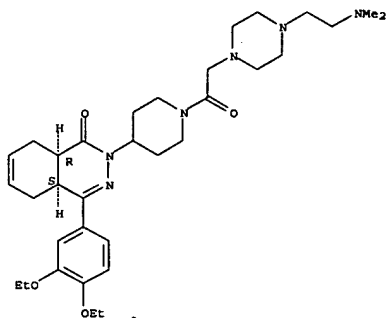
RN 449760-58-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

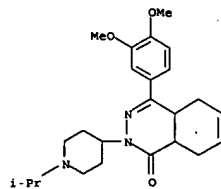


RN 596102-01-1 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-methylethyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

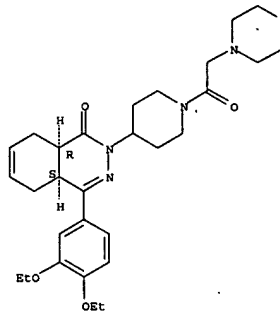


L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 596102-07-7 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(4-morpholinylacetyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 596102-09-9 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[4-[2-(dimethylamino)ethyl]-1-piperazinyl]acetyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:182870 CAPLUS
 DOCUMENT NUMBER: 140:217652
 TITLE: Preparation of pyrrolidinedione substituted piperidine-phthalazones as cyclic nucleotide phosphodiesterase-4 (PDE4) inhibitors
 INVENTOR(S): Hatzelmann, Armin; Barsig, Johannes; Marx, Degenhard; Kley, Hans-Peter; Christleins, Johannes A. M.; Menge, Wiro M. P. B.; Sterk, Geert Jan
 PATENT ASSIGNER(S): Altana Pharma A.-G., Germany
 SOURCE: PCT Int. Appl., 29 pp.
 DOCUMENT TYPE: CODEN: PIXXD2
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: English
 PATENT INFORMATION: 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004018457	A1	20040304	WO 2003-EP8675	20030806
WO 2004018457	A8	20040506		
W: AE, AL, AU, BA, BR, CA, CN, CO, DZ, EC, GE, HR, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, SG, TN, UA, US, VN, YU, ZA, ZW				
RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
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AU 2003258576	A1	20040311	AU 2003-258576	20030806
EP 1537100	A1	20050608	EP 2003-792257	20030806
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
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CN 1671695	A	20050921	CN 2003-818520	20030806
JP 2006500370	T	20060105	JP 2004-510086	20030806
IN 2005MN00028	A	20050218	IN 2005-MN28	20050112
US 2006160813	A1	20060720	US 2005-523413	20051107
PRIORITY APPLN. INFO.: EP 2002-179977 A 20020810				
WO 2003-EP8675 W 20030806				

OTHER SOURCE(S): MARPAT 140:217652
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB 1-(4-Piperidinyl)-4a,5,8,8a-tetrahydro-1H-phthalazin-1-one compds. of formula (I) [R1 and R2 are both H or together form an addnl. bond; R3 = a Ph derivative of formulas Q or Q1; R4 = C1-4 alkoxy or C1-4 alkoxy which is completely or predominantly substituted by fluorine; R5 = C1-4 alkoxy, C3-7 cycloalkoxy, C3-7 cycloalkylmethoxy, C1-4 alkoxy which is completely or predominantly substituted by fluorine; R6 = C1-4 alkoxy or C1-4 alkoxy which is completely or predominantly substituted by fluorine; wherein R7 = C1-4 alkyl; R8 = H, C1-4 alkyl; or R7 and R8 together and with inclusion of the two carbon atoms, to which they are bonded, form a spiro-linked

L4 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
6- or 7-membered hydrocarbon ring, optionally interrupted by an oxygen or sulfur atom; R9 = CO(CH₂)_n-R10; wherein R10 = 2,5-dioxopyrrolidin-1-yl; n = an integer of 1-4) and the salts of these compds. These compds. are useful in the prepn. of pharmaceutical compds. for the treatment of an illness treatable by the administration of a PDE4 inhibitor, in particular

airway disorders. Thus,

1-[2-[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-1-oxo-4a,5,8,8a-tetrahydro-1H-phthalazin-2-yl]piperidin-1-yl]-2-oxoethyl]pyrrolidine-2,5-dione >. Thus, a mixt. of 1 g (4aS,8aR)-2-[1-(2-chloroethanoyl)piperidin-4-yl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one, 0.4 g succinimide, 1 g potassium

carbonate in 20 mL DMP was stirred for 18 h at room temp. to give, after workup and silica gel chromatog. and crysln. from EtOAc, 1-[2-[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-1-oxo-4a,5,8,8a-tetrahydro-1H-phthalazin-2-yl]piperidin-1-yl]-2-oxoethyl]pyrrolidine-2,5-dione (III).

II

showed -logIC₅₀(mol/L) of 10.66 against PDE4.
IT 380226-97-1P, (4AS,8aR)-4-(3,4-Dimethoxyphenyl)-2-piperidin-4-yl-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one hydrochloride
380227-13-4P, (4AS,8aR)-4-(3,4-Diethoxyphenyl)-2-piperidin-4-yl-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one hydrochloride
666735-57-5P 666735-60-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of pyrrolidinedione substituted piperidine-phthalazones as cyclic nucleotide phosphodiesterase-4

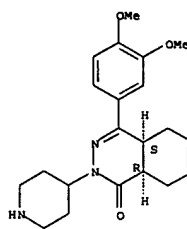
(PDE4) inhibitors for treating airway diseases)

RN 380226-97-1 CAPLUS

CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

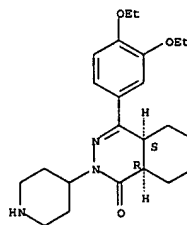


● HCl

RN 380227-13-4 CAPLUS

CN 1(2H)-Phthalazinone, 4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



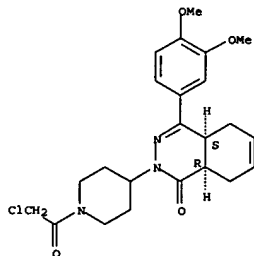
● HCl

RN 666735-57-5 CAPLUS

CN Piperidine, 1-(chloroacetyl)-4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

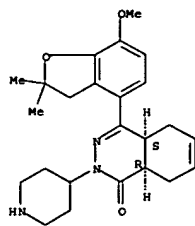
Absolute stereochemistry.



RN 666735-60-0 CAPLUS

CN 4-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuran-1-yl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



● HCl

IT 666735-56-4P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of pyrrolidinedione substituted piperidine-phthalazones

as

Have

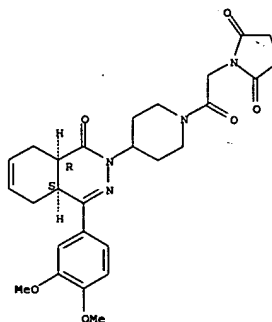
L4 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

cyclic nucleotide phosphodiesterase-4 (PDE4) inhibitors for treating airway diseases)

RN 666735-56-4 CAPLUS

CN Piperidine, 1-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(2,5-dioxo-1-pyrrolidinyl)acetyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

4

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:182864 CAPLUS

DOCUMENT NUMBER: 140:217651

TITLE:

Preparation of piperidinylpyridazinones as inhibitors of phosphodiesterase PDE4 or PDE3/4 inhibitors.

INVENTOR(S): Hatzelmann, Armin; Barsig, Johannes; Marx, Degenhard; Kley, Hans-Peter; Christaans, Johannes A. M.; Menge, Wiro M. P. B.; Sterk, Geert Jan

PATENT ASSIGNEE(S): Altana Pharma A.-G., Germany

SOURCE: PCT Int. Appl., 52 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

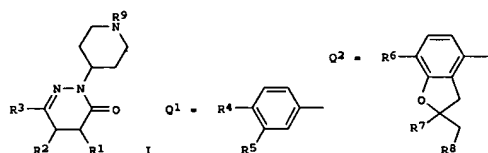
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004/018451	A1	2004/03/04	WO 2003-EP8677	2003/08/06
WO 2004/018451	A8	2004/05/06		
W:	AS, AL, AU, BA, BR, CA, CN, CO, DZ, EC, GE, HR, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, SG, TN, UA, US, VN, YU, ZA, ZW			
RW:	AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR			
CA 2494650	A1	2004/03/04	CA 2003-2494650	2003/08/06
AU 2003251693	A1	2004/03/11	AU 2003-251693	2003/08/06
EP 1556369	A1	2005/07/27	EP 2003-792259	2003/08/06
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
JP 2005538138	T	2005/12/15	JP 2004-530088	2003/08/06
US 2006167001	A1	2006/07/27	US 2005-523348	2005/02/03
PRIORITY APPLN. INFO.:			EP 2002-17976	A 2002/08/10
			WO 2003-EP8677	W 2003/08/06

OTHER SOURCE(S):

MARPAT 140:217651

GI



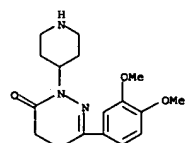
AB Title compds. [I; R1, R2 = H, alkyl; R3 = Q1, Q2; R4 = (fluoro)alkoxy; R5,

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

(Continued)

RN 666750-57-8 CAPLUS

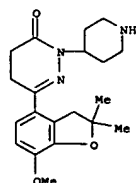
CN 3(2H)-Pyridazinone, 6-(3,4-dimethoxyphenyl)-4,5-dihydro-2-(4-piperidinyl)-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 666750-58-9 CAPLUS

CN 3(2H)-Pyridazinone, 6-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuran-1-yl)-4,5-dihydro-2-(4-piperidinyl)-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 666750-59-0 CAPLUS

CN Piperidine, 1-acetyl-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-4-methyl-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

(Continued)

R6 = cycloalkoxy, cycloalkylmethoxy, (fluoro)alkoxy; R7 = alkyl; R8 = H, alkyl; R7R8 = atoms to form a 5-7 membered ring optionally interrupted by O, S; R9 = alkyl, SO2R10, COR13, aryl, etc.; R10 = alkyl, 5-dimethylaminonaphthalen-1-yl, thienyl, NR16R17, (substituted) Ph, etc.; R13 = alkyl, carboxyalkyl, Ph, pyridyl, NR16R17, etc.; R16 = H, alkyl, cycloalkyl, cycloalkylmethyl, (substituted) Ph; R17 = alkyl, cycloalkyl, cycloalkylmethyl, (substituted) Ph; NR16R17 = 4-morpholinyl, 1-pyrrolidinyl, 1-piperidinyl, 1-hexahydroazepinyl, (substituted) piperazinyl, were prepd. Thus, piperidin-4-ylhydrazine dihydrochloride (prepn. given), 4-(3,4-dimethoxyphenyl)-3-methyl-4-oxobutyric acid, and St3N were refluxed 18 h in PrOH to give

6-(3,4-dimethoxyphenyl)-5-methyl-2-piperidin-4-yl-4,5-dihydro-2H-pyridazin-3-one hydrochloride. I inhibited PDE4 with -log IC50 = 7.17-8.39.

IT 666750-56-7P, 6-(3,4-Dimethoxyphenyl)-5-methyl-2-piperidin-4-yl-

4,5-dihydro-2H-pyridazin-3-one hydrochloride 666750-57-8P

666750-58-9P 666750-59-OP 666750-60-3P

666750-61-4P 666750-62-5P 666750-63-6P

666750-64-7P 666750-65-8P 666750-66-9P

666750-67-0P 666750-68-1P 666750-69-2P

666750-70-5P 666750-71-6P 666750-72-7P

666750-73-8P 666750-74-9P 666750-75-0P

666750-76-1P 666750-77-2P 666750-78-3P

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666750-82-9P 666750-83-0P 666750-84-1P

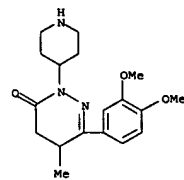
666750-85-2P 666750-86-3P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of piperidinylpyridazinones as phosphodiesterase PDE4 or PDE3/4 inhibitors)

RN 666750-56-7 CAPLUS

CN 3(2H)-Pyridazinone, 6-(3,4-dimethoxyphenyl)-4,5-dihydro-5-methyl-2-(4-piperidinyl)-, monohydrochloride (9CI) (CA INDEX NAME)



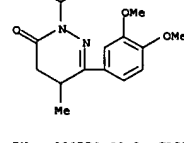
● HCl

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

(Continued)

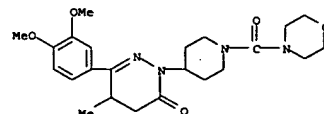
RN 666750-60-3 CAPLUS

CN Morpholine, 4-[[4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-4-methyl-6-oxo-1(4H)-pyridazinyl]-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)



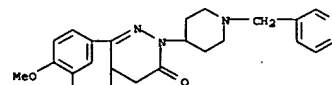
RN 666750-60-3 CAPLUS

CN Morpholine, 4-[[4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-4-methyl-6-oxo-1(4H)-pyridazinyl]-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)



RN 666750-61-4 CAPLUS

CN 3(2H)-Pyridazinone, 6-(3,4-dimethoxyphenyl)-4,5-dihydro-5-methyl-2-[1-(3-pyridinylmethyl)-4-piperidinyl]-, dihydrochloride (9CI) (CA INDEX NAME)

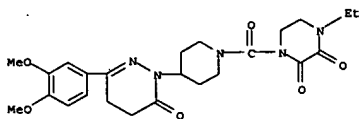


● 2 HCl

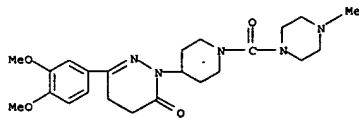
RN 666750-62-5 CAPLUS

CN 2,3-Piperazinedione, 1-[[4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-piperidinyl]carbonyl]-4-ethyl- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



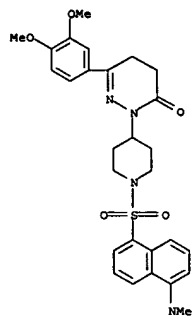
RN 666750-63-6 CAPLUS
 CN Piperazine, 1-[[4-[[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-piperidinyl]carbonyl]-4-methyl-, monohydrochloride (9CI) (CA INDEX NAME)



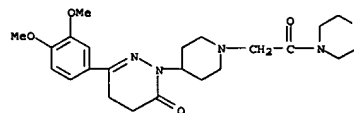
● HCl

RN 666750-64-7 CAPLUS
 CN Piperidine, 4-[[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-[[5-(dimethylamino)-1-naphthalenyl]sulfonyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



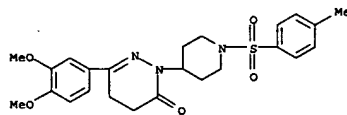
RN 666750-65-8 CAPLUS
 CN Morpholine, 4-[[4-[[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-piperidinyl]acetyl]-, monohydrochloride (9CI) (CA INDEX NAME)



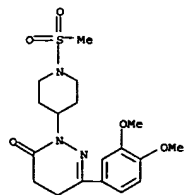
● HCl

RN 666750-66-9 CAPLUS
 CN Piperidine, 4-[[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-[[4-methylphenyl]sulfonyl]- (9CI) (CA INDEX NAME)

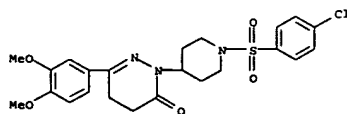
L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666750-67-0 CAPLUS
 CN Piperidine, 4-[[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-(methylsulfonyl)- (9CI) (CA INDEX NAME)

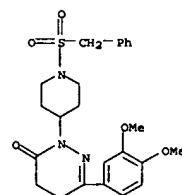


RN 666750-68-1 CAPLUS
 CN Piperidine, 1-[[4-(4-chlorophenyl)sulfonyl]-4-[[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

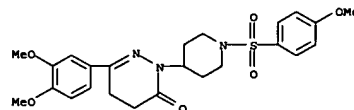


RN 666750-69-2 CAPLUS
 CN Piperidine, 4-[[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-[[phenylmethyl]sulfonyl]- (9CI) (CA INDEX NAME)

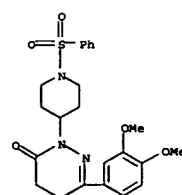
L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666750-70-5 CAPLUS
 CN Piperidine, 4-[[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-[[4-methoxyphenyl]sulfonyl]- (9CI) (CA INDEX NAME)

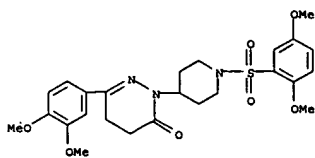


RN 666750-71-6 CAPLUS
 CN Piperidine, 4-[[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-(phenylsulfonyl)- (9CI) (CA INDEX NAME)

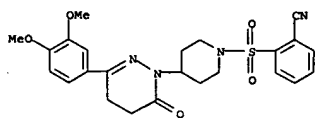


RN 666750-72-7 CAPLUS
 CN Piperidine, 4-[[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-[[2,5-dimethoxyphenyl]sulfonyl]- (9CI) (CA INDEX NAME)

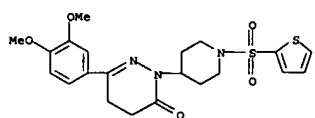
L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666750-73-8 CAPLUS
 CN Piperidine, 1-[[2-cyanophenyl)sulfonyl]-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

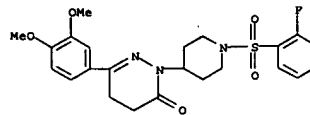


RN 666750-74-9 CAPLUS
 CN Piperidine, 1-[[2-thienyl)sulfonyl]-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

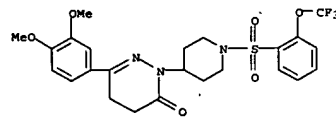


RN 666750-75-0 CAPLUS
 CN Piperidine, 1-[[2-(2-fluorophenyl)sulfonyl]-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

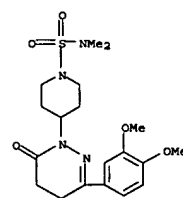
L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666750-76-1 CAPLUS
 CN Piperidine, 1-[[2-(2-fluorophenyl)sulfonyl]-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

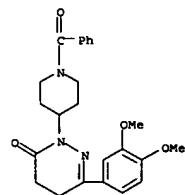


RN 666750-77-2 CAPLUS
 CN 1-Piperidinesulfonamide, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)

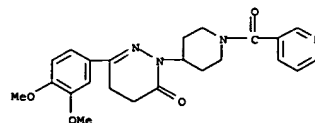


RN 666750-78-3 CAPLUS
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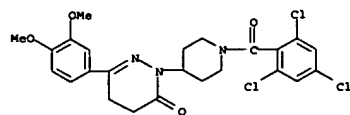
L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666750-79-4 CAPLUS
 CN Piperidine, 1-benzoyl-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

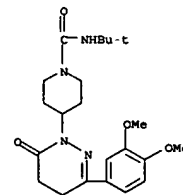


RN 666750-80-7 CAPLUS
 CN Piperidine, 1-benzoyl-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

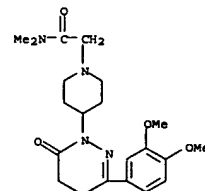


RN 666750-81-8 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



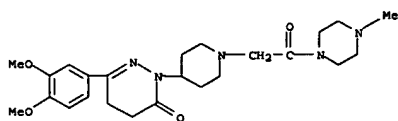
RN 666750-82-9 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

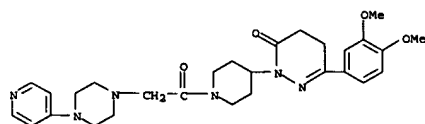
RN 666750-83-0 CAPLUS
 CN Piperazine, 1-[[4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-piperidinyl]acetyl]-4-methyl-, dihydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● 2 HCl

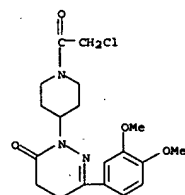
RN 666750-84-1 CAPLUS
 CN Piperidine, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-[[4-(2-methoxyphenyl)-1-piperazinyl]acetyl]-, dihydrochloride (9CI) (CA INDEX NAME)



● 2 HCl

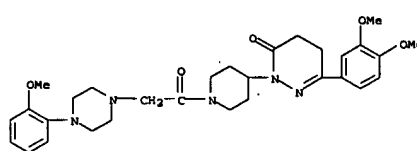
RN 666750-85-2 CAPLUS
 CN Piperidine, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-[[4-(2-methoxyphenyl)-1-piperazinyl]acetyl]-, dihydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



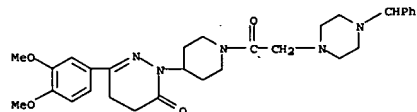
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● 2 HCl

RN 666750-86-3 CAPLUS
 CN Piperidine, 4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]-1-[[4-(diphenylmethyl)-1-piperazinyl]acetyl]-, dihydrochloride (9CI) (CA INDEX NAME)



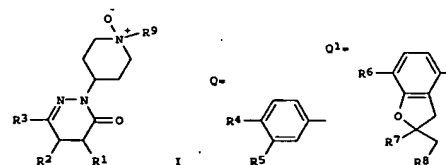
● 2 HCl

IT 666750-88-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of piperidinylpyridazinones as phosphodiesterase PDE4 or PDE3/4 inhibitors)
 RN 666750-88-5 CAPLUS
 CN Piperidine, 1-(chloroacetyl)-4-[3-(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:182863 CAPLUS
 DOCUMENT NUMBER: 140:235730
 TITLE: Preparation of piperidine-N-oxide derivatives as phosphodiesterase 4 inhibitors
 INVENTOR(S): Hatzelmann, Armin; Barsig, Johannes; Marx, Degenhard; Kley, Hans-Peter; Brundel, Paulus Johannes Gaurelius; Christiaans, Johannes A. M.; Menge, Wiro M. P. B.; Sterk, Geert Jan
 PATENT ASSIGNEE(S): Altana Pharma A.-G., Germany
 SOURCE: PCT Int. Appl., 45 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004018450	A1	20040304	WO 2003-EP8676	20030806
W: AE, AL, AU, BA, BR, CA, CN, CO, DZ, EC, GE, HR, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, SG, TN, UA, US, VN, YU, ZA, ZW				
RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
CA 2494643	A1	20040304	CN 2003-2494643	20030806
AU 2003260371	A1	20040311	AU 2003-260371	20030806
EP 1542987	A1	20050622	EP 2003-792258	20030806
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005538137	T	20051215	JP 2004-530087	20030806
US 2006166995	A1	20060727	US 2005-523110	20050203
PRIORITY APPLN. INFO.:				A 20020810
				WO 2003-EP8676 W 20030806

OTHER SOURCE(S): MARPAT 140:235730
 GI



AB The 1,2-dihydro-2-(1-oxidopiperidin-4-yl)phthalazin-2-one derive. {I; R1, R2 = H, C1-4 alkyl; or R1 and R2 together and with inclusion of the two

L4 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
carbon atoms, to which they are bonded, form a group selected from cyclohexane-1,2-diyl or 4-cyclohexene-1,2-diyl; R3 = a Ph deriv. of formulae Q or Q1; R4 = C1-4 alkoxy or C1-4 alkoxy which is completely or predominantly substituted by fluorine; R5 = C1-8 alkoxy, C3-7

cycloalkoxy, C3-7 cycloalkylmethoxy, C1-4 alkoxy which is completely or predominantly substituted by fluorine; R6 = C1-4 alkoxy, C3-5 cycloalkoxy, C3-5 cycloalkylmethoxy, C1-4 alkoxy which is completely or predominantly substituted by fluorine; R7 = C1-4 alkyl; R8 = H, C1-4 alkyl; or wherein R7 and R8 together and with inclusion of the two carbon atoms, to which they are bonded, form a spiro-linked 5-, 6- or 7-membered hydrocarbon ring, optionally interrupted by an oxygen or sulfur atom; R9 = (CH2)mSO2R10, (CH2)nCOR11, -(CH2)p-2-(CH2)q-R14; wherein R10, R11 = N(R12)R13; R12, R13 = H, C1-7 alkyl, C3-7 cycloalkyl, C3-7 cycloalkylmethyl; or NR12R13 together forms a 4-morpholinyl-, 1-pyrrolidinyl-, 1-piperidinyl- or a 1-hexahydroazepinyl ring; Z = a

bond, O, CO, CONH, NHCO, SO2; R14 = H, OH, C1-4 alkoxy, hydroxy-C2-4 alkoxy, C1-4 alkoxy-C1-4 alkoxy, C1-4 alkoxy-carbonyl, (un)substituted aminocarbonyl, etc.; m, n, p, q = an integer from 1 to 4] and the salts

of these compds. are prepd. These compds. are novel effective PDE4 inhibitors and useful for treating an illness treatable by the administration of a PDE4 inhibitor in a patient, in particular airway disorders. Thus, a soln. of 1.2 g 2-[4-[(4aS,8aR)-4-(3,4-

Dimethoxyphenyl]-1-oxo-4a,5,8,8a-tetrahydro-1H-phthalazin-2-yl]piperidin-1-yl]-2H-acetamide hydrochloride in 100 mL CH2Cl2 was washed with aq. satd.

NaHCO3 soln., dried over anhyd. MgSO4, cooled to 0°, treated with 0.6 g 3-chloroperbenzoic acid (70% purity), and stirred for 60 min to give, after workup and silica gel chromatog. and crystn. from EtOAc, 2-[4-[(4aS,8aR)-4-(3,4-Dimethoxyphenyl)-1-oxo-4a,5,8,8a-tetrahydro-1H-phthalazin-2-yl]-1-oxypiperidin-1-yl]acetamide (II). II and 2-[4-[(4aS,8aR)-4-(3,4-Dimethoxyphenyl)-1-oxo-4a,5,8,8a-tetrahydro-1H-phthalazin-2-yl]-1-oxypiperidin-1-yl]-N-isopropylacetamide showed

-logIC50

(mol/L) of 8.31 and 9.3, resp., against PDE4.

IT 380226-97-1P 380227-13-4P, (4AS,8aR)-4-(3,4-Dimethoxyphenyl)-2-piperidin-4-yl-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one hydrochloride 449760-40-1P 449760-44-5P 666735-60-0P 666748-55-6P 666748-56-7P,

(4AS,8aR)-4-(3,4-Dimethoxyphenyl)-2-piperidin-4-yl-4a,5,6,7,8,8a-hexahydro-2H-phthalazin-1-one hydrochloride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

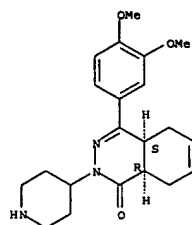
(intermediate; preparation of piperidine N-oxide derivs. as phosphodiesterase 4 (PDE4) inhibitors for treating airway disorders)

RN 380226-97-1 CAPLUS

CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

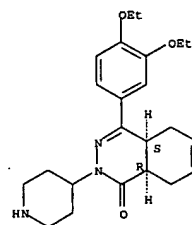


● HCl

RN 380227-13-4 CAPLUS

CN 1(2H)-Phthalazinone, 4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



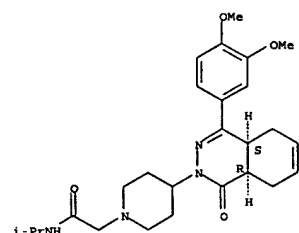
● HCl

RN 449760-40-1 CAPLUS

CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1-methylethyl)- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

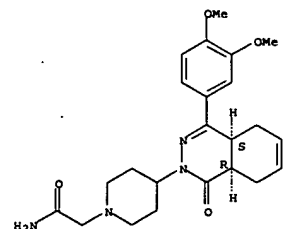
Absolute stereochemistry.



RN 449760-44-5 CAPLUS

CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



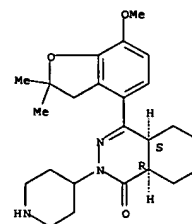
● HCl

RN 666735-60-0 CAPLUS

CN 1(2H)-Phthalazinone, 4-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuran-1-yl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aR,8aS)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

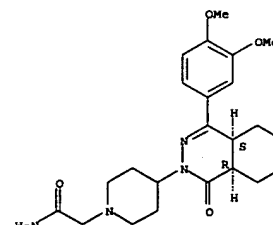


● HCl

RN 666748-55-6 CAPLUS

CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,6,7,8,8a-hexahydro-1-oxo-2(1H)-phthalazinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

RN 666748-56-7 CAPLUS

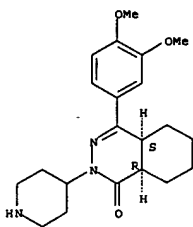
CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,6,7,8,8a-hexahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Habte

02/09/2007

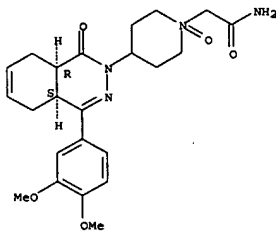
L4 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● HCl

IT 666854-35-9P 666854-37-1P 666854-40-6P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
 (Uses)
 (preparation of piperidine N-oxide deriva. as phosphodiesterase 4
 (PDE4) inhibitors for treating airway disorders)
 RN 666854-35-9 CAPLUS
 CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,6,7,8,8a-
 tetrahydro-1-oxo-2(1H)-phthalazinyl]-, 1-oxide (9CI) (CA INDEX NAME)

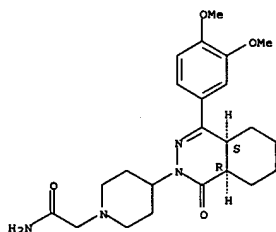
Absolute stereochemistry.



RN 666854-37-1 CAPLUS

L4 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 CN 1-Piperidineacetamide,
 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,6,7,8,8a-
 hexahydro-1-oxo-2(1H)-phthalazinyl]-, 1-oxide (9CI) (CA INDEX NAME)

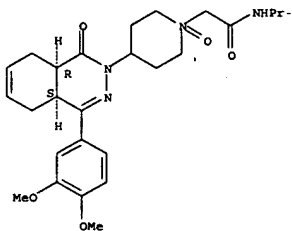
Absolute stereochemistry.



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR
 THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

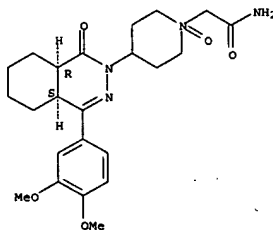
L4 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,6,7,8,8a-
 tetrahydro-1-oxo-2(1H)-phthalazinyl]-, 1-oxide (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.



RN 666854-40-6 CAPLUS
 CN 1-Piperidineacetamide,
 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,6,7,8,8a-
 hexahydro-1-oxo-2(1H)-phthalazinyl]-, 1-oxide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 666748-54-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant; preparation of piperidine N-oxide deriva. as
 phosphodiesterase 4
 (PDE4) inhibitors for treating airway disorders)
 RN 666748-54-5 CAPLUS

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:182862 CAPLUS
 DOCUMENT NUMBER: 140:217665
 TITLE: Preparation of piperidinylphthalazinone derivatives
 as
 PDE4 inhibitors
 INVENTOR(S): Hatzelmann, Armin; Barsig, Johannes; Marx, Degenhard;
 Kley, Hans-Peter; Christleins, Johannes A. M.; Menge,
 Wiros M. P. B.; Sterk, Geert Jan; Weinbrenner, Steffen
 PATENT ASSIGNEE(S): Altana Pharma A.-G., Germany
 SOURCE: PCT Int. Appl., 48 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004018449	A1	20040304	WO 2003-EP8673	20030806
WO 2004018449	A8	20040506		
W: AE, AL, AU, BA, BR, CA, CN, CO, DZ, EC, GE, HR, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, SG, TN, UA, US, VN, YU, ZA, ZW RM: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR AU 2003255376 A1 20040311 AU 2003-255376 20030806 PRIORITY APPLN. INFO.: EP 2002-17979 A 20020810 WO 2003-EP8673 W 20030806				

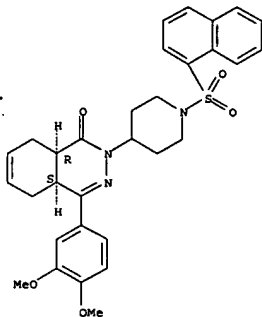
 OTHER SOURCE(S): MARPAT 140:217665
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compound I [R1, R2 = H or together form an addnl. bond; R3 =
 benzene derivative Q1 or Q2; R4 = (substituted)arylsulfonyl; R5 = alkoxy
 or
 polyfluoroalkoxy; R6, R7 = (cyclo)alkoxy, cycloalkylmethoxy, or
 polyfluoroalkoxy; R8 = alkyl; R9 = H or alkyl; or R7 and R8 together
 with
 the 2 intervening C atoms form a spiro-linked 5-, 6- or 7-membered
 hydrocarbon ring, optionally interrupted by O or S] were prepared as PDE4
 inhibitors. Thus, reaction of (4aS,8aR)-4-(3,4-dimethoxyphenyl)-2-
 piperidin-4-yl-4a,5,8a-tetrahydro-2H-phthalazin-1-one hydrochloride
 (preparation given) with naphthalene-1-sulfonyl chloride gave compound
 II.
 prepared compds. inhibited PDE4 with -log(IC50) ≥ 8.8.
 IT 666737-07-1P 666737-09-3P 666737-10-6P
 666737-11-7P 666737-12-8P 666737-13-9P
 666737-14-0P 666737-15-1P 666737-16-2P
 666737-17-3P 666737-18-4P 666737-19-5P
 666737-20-8P 666737-21-9P 666737-22-0P
 666737-23-1P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
 (Uses)
 (prepn. of piperidinylphthalazinone deriva. as PDE4 inhibitors)
 RN 666737-07-1 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(1-naphthalenylsulfonyl)- (9CI) (CA INDEX NAME)

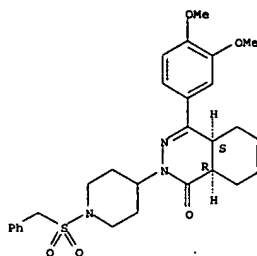
Absolute stereochemistry.



RN 666737-09-3 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(phenylmethyl)sulfonyl]- (9CI) (CA INDEX NAME)

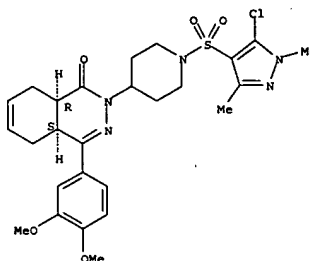
Absolute stereochemistry.

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666737-10-6 CAPLUS
 CN Piperidine, 1-[(5-chloro-1,3-dimethyl-1H-pyrazol-4-yl)sulfonyl]-4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

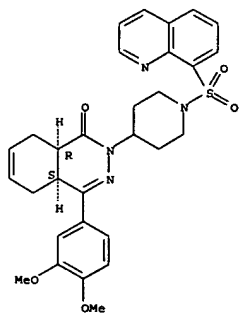
Absolute stereochemistry.



RN 666737-11-7 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(8-quinolinylsulfonyl)- (9CI) (CA INDEX NAME)

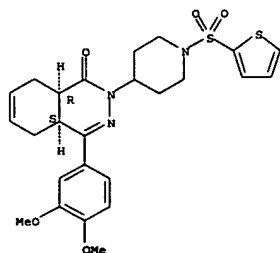
Absolute stereochemistry.

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666737-12-8 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(2-thienylsulfonyl)- (9CI) (CA INDEX NAME)

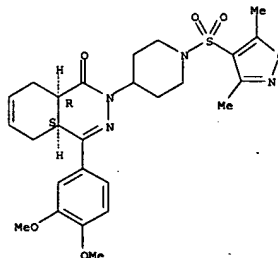
Absolute stereochemistry.



RN 666737-13-9 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(3,5-dimethyl-4-isoxazolyl)sulfonyl]- (9CI) (CA INDEX NAME)

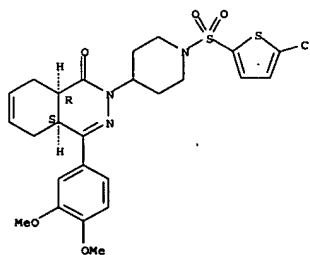
Absolute stereochemistry.

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666737-14-0 CAPLUS
 CN Piperidine, 1-[(5-chloro-2-thienyl)sulfonyl]-4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

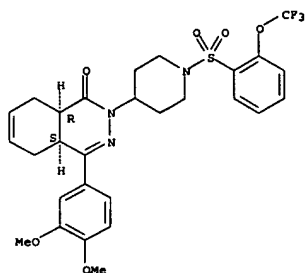
Absolute stereochemistry.



RN 666737-15-1 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(2-(trifluoromethoxy)phenyl)sulfonyl]- (9CI) (CA INDEX NAME)

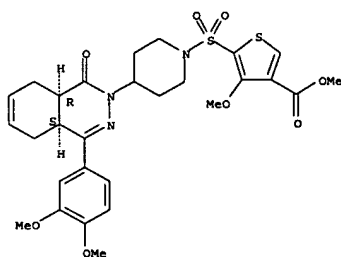
Absolute stereochemistry.

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666737-16-2 CAPLUS
 CN 1-Thiophenecarboxylic acid, 5-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidiny]sulfonyl]-4-methoxy-, methyl ester (9CI) (CA INDEX NAME)

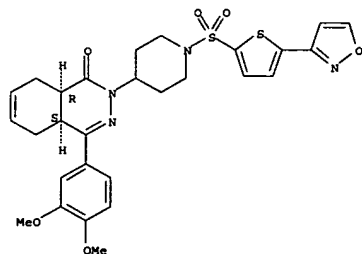
Absolute stereochemistry.



RN 666737-17-3 CAPLUS
 CN Piperidine, 4-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[4-(phenylsulfonyl)-2-thienyl]sulfonyl]- (9CI) (CA INDEX NAME)

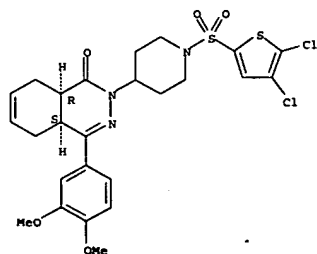
Absolute stereochemistry.

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666737-20-8 CAPLUS
 CN Piperidine, 1-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[4-(phenylsulfonyl)-2-thienyl]sulfonyl]- (9CI) (CA INDEX NAME)

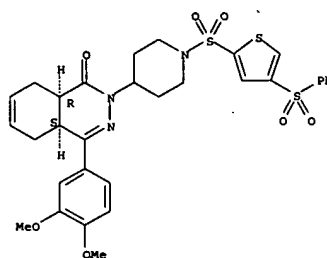
Absolute stereochemistry.



RN 666737-21-9 CAPLUS
 CN Piperidine, 1-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[4-(trifluoromethoxy)phenyl]sulfonyl]- (9CI) (CA INDEX NAME)

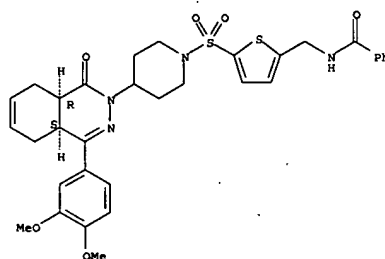
Absolute stereochemistry.

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666737-18-4 CAPLUS
 CN Benzamide, N-[[5-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidiny]sulfonyl]-2-thienyl]methyl)- (9CI) (CA INDEX NAME)

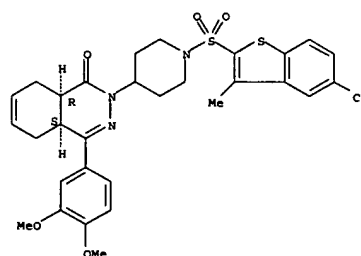
Absolute stereochemistry.



RN 666737-19-5 CAPLUS
 CN Piperidine, 4-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[5-(3-isoxazolyl)-2-thienyl]sulfonyl]- (9CI) (CA INDEX NAME)

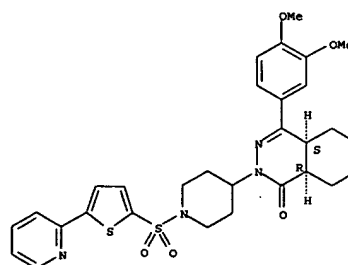
Absolute stereochemistry.

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666737-22-0 CAPLUS
 CN Piperidine, 4-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[5-(2-pyridinyl)-2-thienyl]sulfonyl]- (9CI) (CA INDEX NAME)

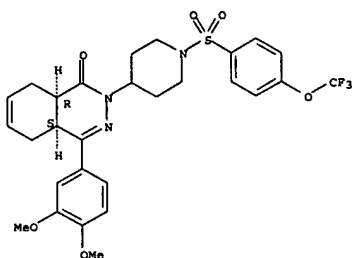
Absolute stereochemistry.



RN 666737-23-1 CAPLUS
 CN Piperidine, 4-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[4-(trifluoromethoxy)phenyl]sulfonyl]- (9CI) (CA INDEX NAME)

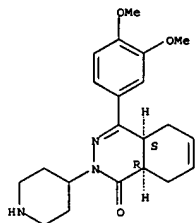
Absolute stereochemistry.

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 380226-97-1P 380227-13-4P 666735-60-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of piperidinylphthalazinone deriva. as PDE4 inhibitors)
 RN 380226-97-1 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

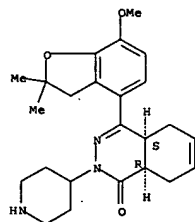
Absolute stereochemistry.



● HCl

RN 380227-13-4 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

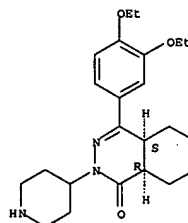


● HCl

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

RN 666735-60-0 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aR,8aS)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:182711 CAPLUS
 DOCUMENT NUMBER: 140:235729
 TITLE: Preparation of piperidine-substituted pyridazones and phthalazones as PDE4 inhibitors
 INVENTOR(S): Sterk, Geert Jan; Hatzelmann, Armin; Marx, Degenhard; Kley, Hans-Peter; Menge, Wiro M. P. B.
 PATENT ASSIGNEE(S): Altana Pharma A.-G., Germany
 SOURCE: PCT Int. Appl., 65 pp.
 DOCUMENT TYPE: CODEN: PIXXD2
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: English
 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004017974	A1	20040304	WO 2003-EP8724	20030806
W: AE, AL, AU, BA, BR, CA, CN, CO, DZ, EC, GE, HR, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, SG, TN, UA, US, VN, YU, ZA, ZW				
RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
CA 2494634	A1	20040304	CA 2003-2494634	20030806
AU 2003260376	A1	20040311	AU 2003-260376	20030806
EP 1556049	A1	20050727	EP 2003-792267	20030806
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005538140	T	20051215	JP 2004-530096	20030806
US 2006094710	A1	20060504	US 2005-523111	20051003
PRIORITY APPL. INFO.:			EP 2002-17977	A 20020810
			WO 2003-EP8724	W 20030806

OTHER SOURCE(S): MARPAT 140:235729
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compds. I [R1-2 = H, alkyl, etc.; R3 = substituted Ph, etc.; R9 = naphthyl, pyrazinyl, pyridazinyl, etc.] are prepared for instance,

(4aS,8aR)-4-(3,4-Dimethoxyphenyl)-2-piperidin-4-yl-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one hydrochloride (preparation given) is reacted with methanesulfonylacetic acid (CH₂Cl₂, Et₃N) to give II. Compds. of the invention have pIC₅₀ ≥ 9 for the PDE4 receptor. I are useful for the treatment of airway disorders.

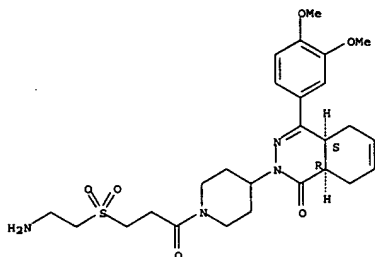
IT 666851-01-OP, (4AS,8aR)-2-[1-[3-(3-aminoethanesulfonyl)propanoyl]p

iperidin-4-yl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation of piperidine-substituted pyridazones and phthalazones as PDE4

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
inhibitors)
RN 666851-01-0 CAPLUS
CN Piperidine,
1-[3-[(2-aminoethyl)sulfonyl]-1-oxopropyl]-4-[(4aS,8aR)-4-(3,4-
dimethoxyphenyl)-4a,5,8a-tetrahydro-1-oxo-2(1H)-phthalaziny]- (SC1)
(CA INDEX NAME)]

Absolute stereochemistry.



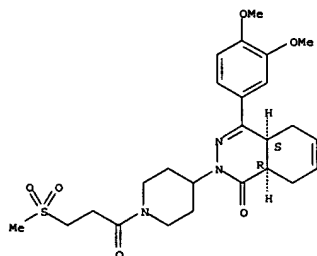
IT 380227-17-8P, (4AS,8aR)-2-[1-[3-[(2-Aminoethyl)sulfanyl]propanoyl]

piperidin-4-yl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2H-phthalazin-
 1-one 666850-88-OP, (AAS,BAK)-4-(3,4-Dimethoxyphenyl)-2-[1-[2-
 (methanesulfonyl)ethane]carbonyl]piperidin-4-yl]-4a,5,8,8a-tetrahydro-2H-
 phthalazin-1-one 666850-90-AP, (AAS,BAK)-2-[1-(Benzofuran-2-
 yl)-2-oxoethyl]piperidin-4-yl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-
 tetrahydro-2H-phthalazin-1-one 666850-91-AP, (AAS,BAK)-2-[1-(4-
 (AAS,BAK)-2-[1-(4-(Benzimidazol-1-yl)benzyl)piperidin-4-yl]-4-(3,4-
 dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one hydrochloride
 666850-96-OP 666850-98-3P 666851-03-2P,
 piperidin-4-yl]-4-(3,4-dimethoxyphenyl)-2-[1-[2-[2-oxo-1,2-dihydroquinolin-6-
 (yl)ethan-1-yl]ethyl]carbonyl]piperidin-4-yl]-4a,5,8,8a-tetrahydro-2H-phthalazin-1-
 one 666851-05-4P, (AAS,BAK)-4-(3,4-Dimethoxyphenyl)-2-[1-[4-[2-(oxo-

1,2-dihydroquinolin-6-yl)oxy]butanoyl]piperidin-4-yl]-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one 666851-07-6P, [AAS,8aR]-2-[1-[2-(2-Aminoethoxy)ethyl]piperidin-4-yl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one dihydrochloride 666851-10-1P, [AAS,8aR]-4-(3,4-Dimethoxyphenyl)-2-[1-(2-methoxyethyl)piperidin-4-yl]-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one dihydrochloride 666851-12-3P, [AAS,8aR]-4-(5-Dimethoxyphenyl)-2-[1-(2-methoxyethyl)piperidin-4-yl]-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one dihydrochloride 666851-15-6P, [AAS,8aR]-4-(3,4-

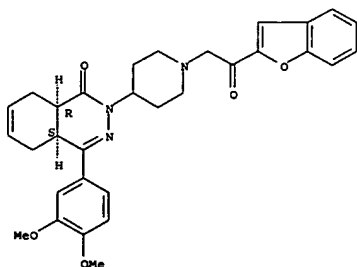
Dimethoxyphenyl)-2-[1-[2-(methanesulfonyl)ethyl]piperidin-4-yl]-4a,5,8,8a-

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666850-90-4 CAPLUS
CN 1(2H)-Phthalazinone,
2-[1-(2-(2-benzofuran-1-yl)-2-oxoethyl)-4-piperidinyl]-4-(
3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, (4aS,8aR) - (9CI) (CA INDEX
NAME)

Absolute stereochemistry.



RN 666850-93-7 CAPLUS
CN 1(2H)-Phthalazinone, 2-[1-{{[4-(1H-benzimidazol-1-yl)phenyl]methyl}-4-piperidinyl}-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, monohydrochloride. (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
tetrahydro-2H-phthalazin-1-one hydrochloride 666851-17-8P.

(4AS, 8AR) -4-(3,4-Dimethoxyphenyl)-2-[1-[2-(4-hydroxyethoxy)ethyl]piperidin-4-yl]-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one 66681-19-8
6-[4-[4-(3-(3,4-Dimethoxyphenyl)-6-oxo-5,6-dihydro-4H-pyridazin-1-yl)]piperidin-1-yl]-4-oxobutyl]-1H-quinolin-2-one 666851-37-2P,
(4AS, 8AR) -2-[1-(2-(2-Aminoethoxy)ethyl)piperidin-4-yl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one
RLC (Pharmacological activity); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USSS
(Uses).

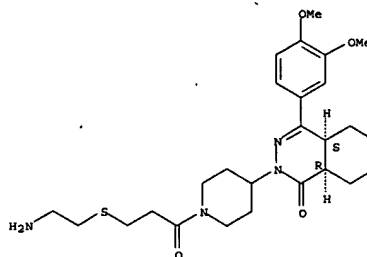
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(Uses)
  (prepn. of piperidine-substituted pyridazones and phthalazones as PDE4
  inhibitors)

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RN 380227-17-8 CAPLUS
CN Piperidine, 1-[3-[(2-aminoethyl)thio]-1-oxopropyl]-4-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalaziny]- (9CI)
(CA INDEX NAME)

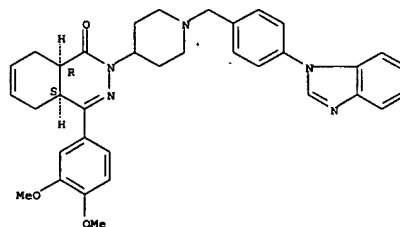
Absolute stereochemistry.



RN 666850-88-0 CAPLUS
CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[3-(methylsulfonyl)-1-oxopropyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

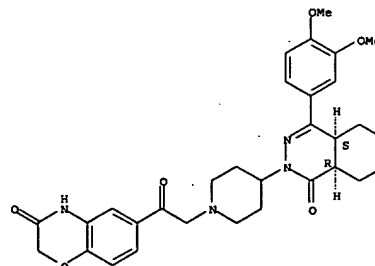
L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● HCl

RN 666850-96-0 CAPLUS
CN 2H-1,4-Benzoxazin-3(4H)-one, 6-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8a-tetrahydro-3-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-
(9CI) (CA INDEK NAME)

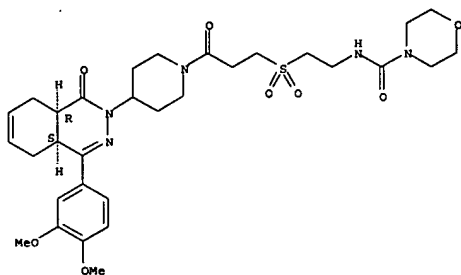
Absolute stereochemistry.



RN 666850-99-3 CAPLUS
 CN 4-Morpholinecarboxamide, N-[2-[[3-{4-[(4aS,8aR)-4-{3,4-dimethoxyphenyl}-4a,5,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]-3-oxopropyl]sulfonyl]ethyl]- (9CI) (CA INDEX NAME)

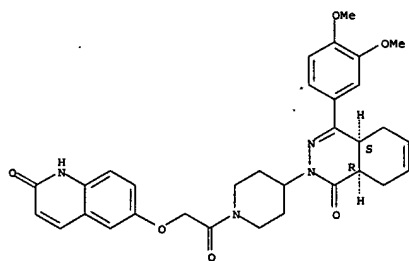
Absolute stereochemistry.

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666851-03-2 CAPLUS
 CN Piperidine, 1-[(1,2-dihydro-2-oxo-6-quinolinyl)oxy]acetyl]-4-[(4aS,8aR)-4-1-[(1,2-dihydro-2-oxo-6-quinolinyl)oxy]acetyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

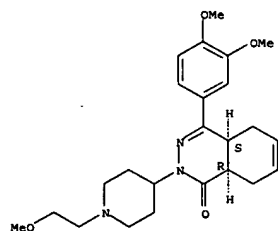
Absolute stereochemistry.



RN 666851-05-4 CAPLUS
 CN Piperidine, 1-[(1,2-dihydro-2-oxo-6-quinolinyl)oxy]acetyl]-4-[(4aS,8aR)-4-1-[(1,2-dihydro-2-oxo-6-quinolinyl)oxy]acetyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) INDEX NAME)

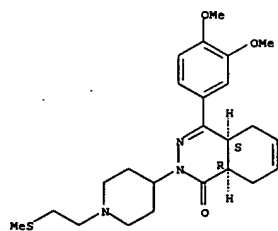
Absolute stereochemistry.



● HCl

RN 666851-12-3 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[2-(methylthio)ethyl]-4-piperidinyl]-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

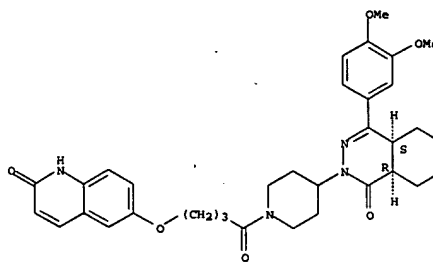


● HCl

RN 666851-15-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[2-(methylthio)ethyl]-4-piperidinyl]-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

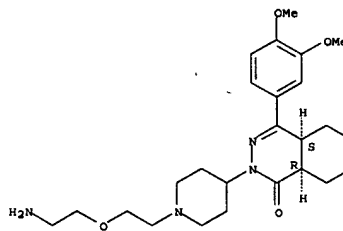
Habte

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) Absolute stereochemistry.



RN 666851-07-6 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[1-[2-(2-aminoethoxy)ethyl]-4-piperidinyl]-4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

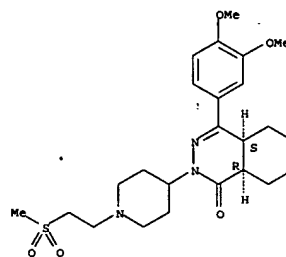


● 2 HCl

RN 666851-10-1 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[2-(methoxyethyl)-4-piperidinyl]-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) INDEX NAME)

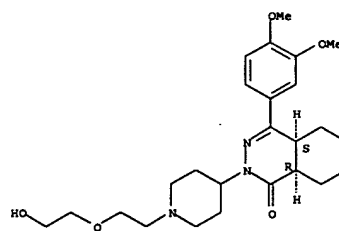
Absolute stereochemistry.



● HCl

RN 666851-17-8 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[2-(2-hydroxyethoxy)ethyl]-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

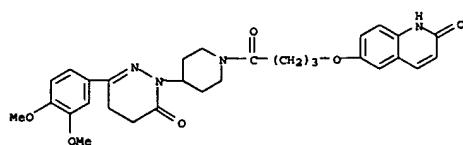
Absolute stereochemistry.



RN 666851-19-0 CAPLUS
 CN Piperidine, 1-[(1,2-dihydro-2-oxo-6-quinolinyl)oxy]-1-oxobutyl]-4-[(3,4-dimethoxyphenyl)-5,6-dihydro-6-oxo-1(4H)-pyridazinyl]- (9CI) (CA INDEX NAME)

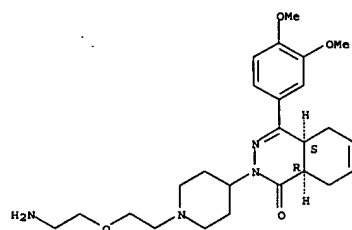
02/09/2007

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 666851-37-2 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[1-[2-(2-aminoethoxy)ethyl]-4-piperidinyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 380226-97-1P, (4AS,8aR)-4-(3,4-Dimethoxyphenyl)-2-(piperidin-4-yl)-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one hydrochloride
 380227-13-4P, (4AS,8aR)-4-(3,4-Diethoxyphenyl)-2-piperidin-4-yl-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one hydrochloride
 666735-60-0P 666750-56-7P, 6-(3,4-Dimethoxyphenyl)-5-methyl-2-(piperidin-4-yl)-4,5-dihydro-2H-pyridazin-3-one hydrochloride
 666750-57-8P, 6-(3,4-Dimethoxyphenyl)-2-(piperidin-4-yl)-4,5-dihydro-2H-pyridazin-3-one hydrochloride 666750-58-9P,
 6-(7-Methoxy-2,2-dimethyl-2,3-dihydrobenzofuran-4-yl)-2-(piperidin-4-yl)-4,5-dihydro-2H-pyridazin-3-one hydrochloride
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of piperidine-substituted pyridazines and phthalazines

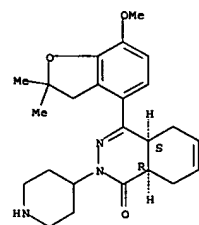
as PDE4
 inhibitors)

RN 380226-97-1 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

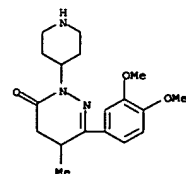
CN 1(2H)-Phthalazinone,
 4-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-
 4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride,
 (4aR,8aS)-rel-
 (9CI) (CA INDEX NAME)

Relative stereochemistry.



● HCl

RN 666750-56-7 CAPLUS
 CN 3(2H)-Pyridazinone, 6-(3,4-dimethoxyphenyl)-4,5-dihydro-5-methyl-2-(4-piperidinyl)-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

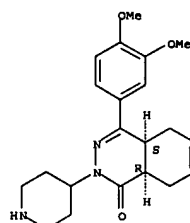
RN 666750-57-8 CAPLUS
 CN 3(2H)-Pyridazinone,
 6-(3,4-dimethoxyphenyl)-4,5-dihydro-2-(4-piperidinyl)-
 , monohydrochloride (9CI) (CA INDEX NAME)

Habte

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

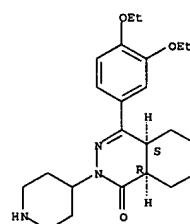
Absolute stereochemistry.



● HCl

RN 380227-13-4 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

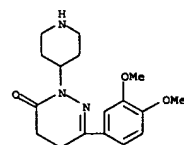
Absolute stereochemistry.



● HCl

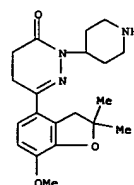
RN 666735-60-0 CAPLUS

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● HCl

RN 666750-58-9 CAPLUS
 CN 3(2H)-Pyridazinone,
 6-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-
 4,5-dihydro-2-(4-piperidinyl)-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

REFERENCE COUNT: 4
 FORMAT

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE

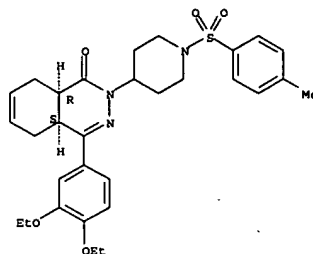
02/09/2007

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 ACCESSION NUMBER: 2003:719308 CAPLUS
 DOCUMENT NUMBER: 139:240373
 TITLE: Pharmaceutical composition of a phosphodiesterase 4 (PDE4) inhibitor or a PDE3/4 inhibitor and a histamine receptor antagonist for the treatment of respiratory diseases
 INVENTOR(S): Beume, Rolf; Bundschuh, Daniela; Weimer, Christian; Wollin, Stefan-lutz
 PATENT ASSIGNER(S): Altana Pharma Ag, Germany
 SOURCE: PCT Int. Appl., 87 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003074055	A1	20030912	WO 2003-EP1876	20030225
W: AE, AL, AU, BA, BR, CA, CN, CO, CU, DZ, EC, GE, HR, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, SG, TN, UA, US, VN, YU, ZA, ZW				
RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
CA 2478612	A1	20030912	CA 2003-2478612	20030225
AU 2003212268	A1	20030916	AU 2003-212268	20030225
EP 1482938	A1	20041208	EP 2003-708130	20030225
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003008220	A	20050104	BR 2003-8220	20030225
US 2005112069	A1	20050526	US 2004-506875	20030225
JP 200524666	T	20050818	JP 2003-572572	20030225
NZ 535611	A	20060331	NZ 2003-535611	20030225
IN 2004MM00404	A	20050218	IN 2004-MM0404	20040723
NO 2004004230	A	20041206	NO 2004-4230	20041006
PRIORITY APPLN. INFO.:			EP 2002-4987	A 20020306
			WO 2003-EP1876	W 20030225

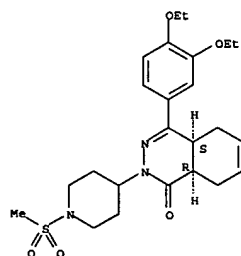
AB The invention discloses the combined administration of PDE4 or PDE3/4 inhibitors and histamine receptor antagonists for the treatment of respiratory diseases.
 IT 449760-14-9 449760-15-0 449760-16-1
 449760-17-2 449760-19-4 449760-20-7
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 449760-51-4 449760-52-5 449760-53-6
 449760-56-9 449760-57-0 449760-58-1
 596102-01-1 596102-07-7 596102-09-9
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 (Biological study); USES (Uses)
 (phosphodiesterase 4 (PDE4) inhibitor or PDE3/4 inhibitor combination with histamine receptor antagonist for treatment of respiratory disease)
 RN 449760-14-9 CAPLUS
 CN Piperidine,
 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(4-methylphenyl)sulfonyl]- (9CI) (CA INDEX NAME)
 Absolute stereochemistry.



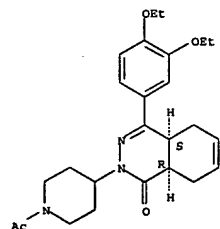
RN 449760-15-0 CAPLUS
 CN Piperidine,
 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(methylsulfonyl)- (9CI) (CA INDEX NAME)
 Absolute stereochemistry.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-16-1 CAPLUS
 CN Piperidine, 1-acetyl-4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

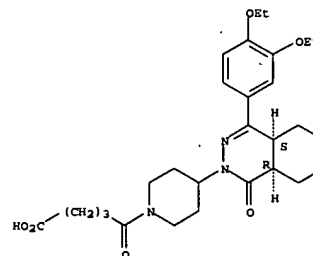
Absolute stereochemistry.



RN 449760-17-2 CAPLUS
 CN 1-Piperidinepentanoic acid,
 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-8-oxo- (9CI) (CA INDEX NAME)

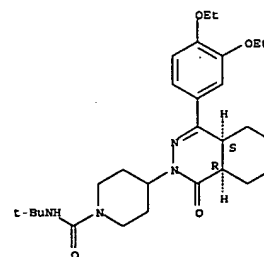
Absolute stereochemistry.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-19-4 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

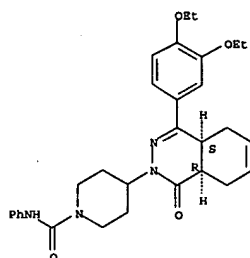
Absolute stereochemistry.



RN 449760-20-7 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-phenyl- (9CI) (CA INDEX NAME)

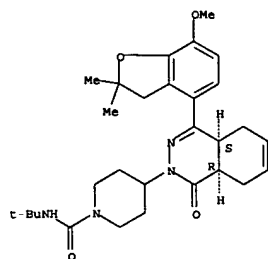
Absolute stereochemistry.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-22-9 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)-, rel- (9CI) (CA INDEX NAME)

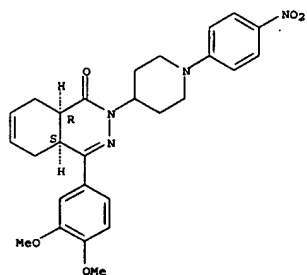
Relative stereochemistry.



RN 449760-23-0 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[[5-(dimethylamino)-1-naphthalenyl]sulfonyl]- (9CI) (CA INDEX NAME)

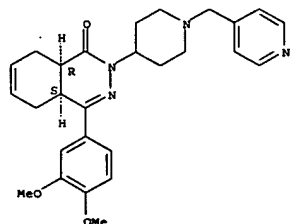
Absolute stereochemistry.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-25-2 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

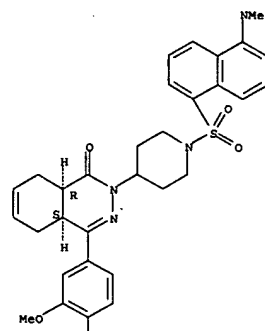


RN 449760-26-3 CAPLUS
 CN Morpholine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



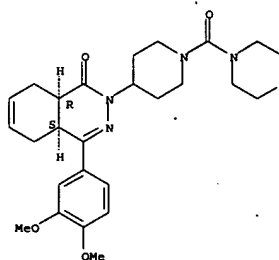
PAGE 2-A



RN 449760-24-1 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-nitrophenyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

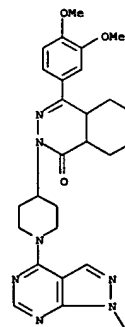
Absolute stereochemistry.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-28-5 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-methyl-1H-pyrazolo[3,4-d]pyrimidin-4-yl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

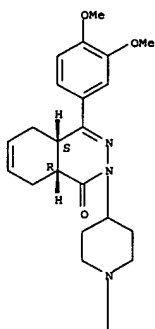


L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

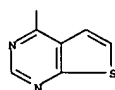
PAGE 2-A

RN 449760-29-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(1-thieno[2,3-d]pyrimidin-4-yl-4-piperidinyl)-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



PAGE 1-A

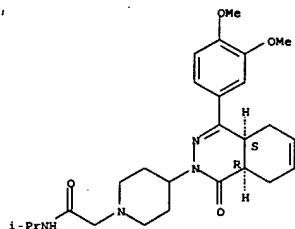


PAGE 2-A

RN 449760-30-9 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-

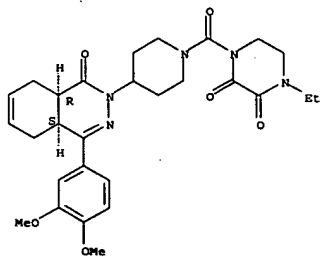
L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.



RN 449760-42-3 CAPLUS
 CN 2,3-Piperazinedione, 1-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]-4-ethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



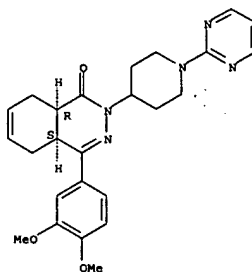
RN 449760-47-8 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(4-pyridinylcarbonyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

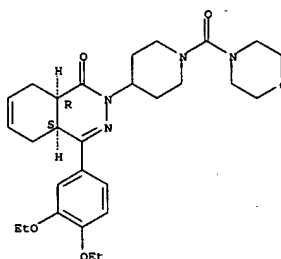
pyrimidinyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



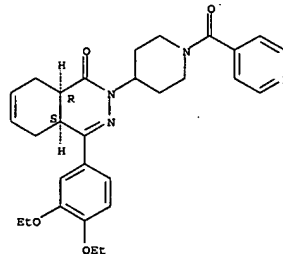
RN 449760-35-4 CAPLUS
 CN Morpholine, 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



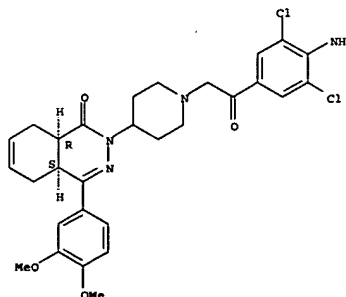
RN 449760-40-1 CAPLUS
 CN 1-Piperidinescetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1-methylethyl)- (9CI) (CA INDEX NAME)

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-48-9 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[1-[2-(4-amino-3,5-dichlorophenyl)-2-oxoethyl]-4-piperidinyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, (4aS,8aR)- (9CI) (CA INDEX NAME)

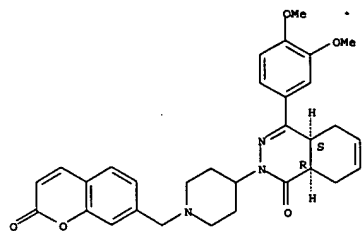
Absolute stereochemistry.



RN 449760-49-0 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

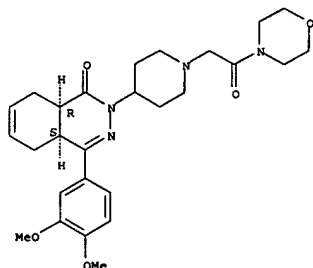
Absolute stereochemistry.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-50-3 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

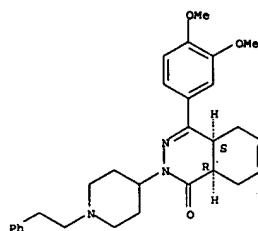
Absolute stereochemistry.



RN 449760-51-4 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-phenylethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

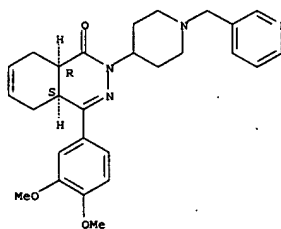
Absolute stereochemistry.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-52-5 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(3-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

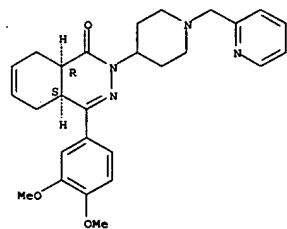
Absolute stereochemistry.



RN 449760-53-6 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

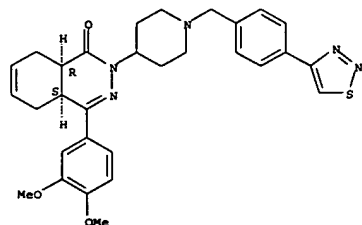
Absolute stereochemistry.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-56-9 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(1,2,3-thiadiazol-4-yl)phenyl]methyl]-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

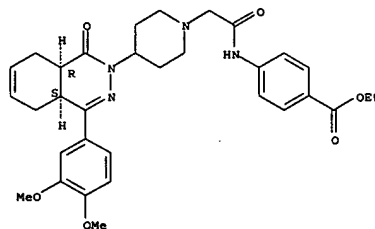
Absolute stereochemistry.



RN 449760-57-0 CAPLUS
 CN Benzoic acid, 4-[[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

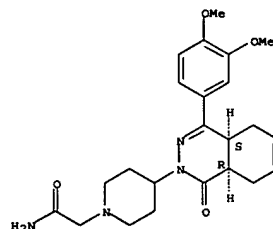
Absolute stereochemistry.

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



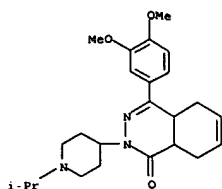
RN 449760-58-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



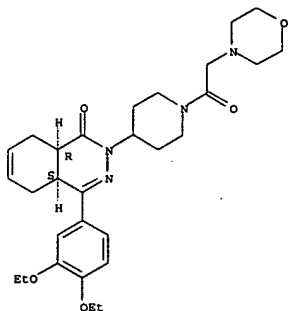
RN 596102-01-1 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-methylethyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 596102-07-7 CAPLUS
 CN Piperidine,
 4-[[4aS,8aR]-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-
 2(1H)-phthalazinyl]-1-(4-morpholinylacetyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 596102-09-9 CAPLUS
 CN Piperidine,
 4-[[4aS,8aR]-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-
 2(1H)-phthalazinyl]-1-[[4-[2-(dimethylamino)ethyl]-1-piperazinyl]acetyl]-
 (9CI) (CA INDEX NAME)

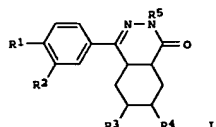
Absolute stereochemistry.

L4 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:832801 CAPLUS
 DOCUMENT NUMBER: 137:337906
 TITLE: Preparation of phthalazinones as phosphodiesterase
 4/7 inhibitors.
 INVENTOR(S): Hatzelmann, Armin; Marx, Degenhard; Steinhilber,
 Wolfram; Sterk, Geert Jan
 PATENT ASSIGNEE(S): Altana Pharma A.-G., Germany
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

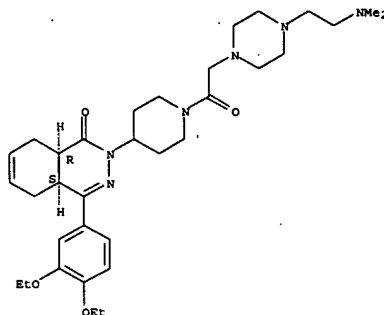
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RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
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EP 1385848	A2	20040204	EP 2002-747291	20020423
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NZ 529221	A	20050429	NZ 2002-529221	20020423
US 2004127707	A1	20040701	US 2003-475657	20031023
NO 2003004773	A	20031210	NO 2003-4773	20031024
BG 108294	A	20040930	BG 2003-108294	20031027
ZA 2003008930	A	20040609	ZA 2003-8930	20031117
IN 2003MN01079	A	20050429	IN 2003-MN1079	20031124
PRIORITY APPLN. INFO.:			EP 2001-110228	A 20010425
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OTHER SOURCE(S): MARPAT 137:337906
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L4 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

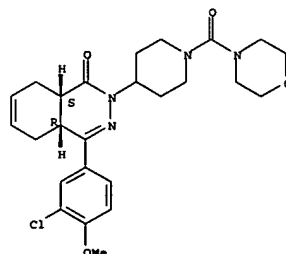


REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L4 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

AB Title compds. (I; R1 = alkoxy, fluoroalkoxy; R2 = F, Br, Cl; R3, R4 = H; R3R4 = bond; R5 = alkyl, cycloalkyl, cycloalkylmethyl, alkenyl, alkynyl, phenylalkenyl, polycycloalkyl, naphthyl, pyridyl, pyrazinyl, pyridazinyl, pyrimidinyl, etc.), were prepared Thus,
 cis-4-(3-chloro-4-methoxyphenyl)-2-piperidin-4-yl-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one (preparation given) was stirred 16 h with morpholine-4-carbonyl chloride in pyridine to give
 cis-4-(3-chloro-4-methoxyphenyl)-2-[1-(1-morpholin-4-ylmethanoyl)piperidin-4-yl]-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one. The latter inhibited PDE4 and PDE7 with -log IC50 = 8.64 and 7.64, resp.
 IT 474122-96-8P 474122-97-9P 474122-98-0P
 474122-99-1P 474123-17-6P 474123-26-7P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of phthalazinones as phosphodiesterase 4/7 inhibitors)
 RN 474122-96-8 CAPLUS
 CN Morpholine, 4-[[4-[[4aR,8aS)-4-(3-chloro-4-methoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]carbonyl]-, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

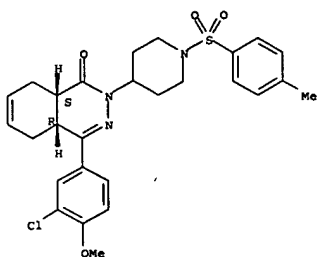


RN 474122-97-9 CAPLUS
 CN Piperidine,
 4-[[4aR,8aS)-4-(3-chloro-4-methoxyphenyl)-4a,5,8,8a-tetrahydro-
 1-oxo-2(1H)-phthalazinyl]-1-[[4-methylphenyl]sulfonyl]-, rel- (9CI) (CA
 INDEX NAME)

Relative stereochemistry.

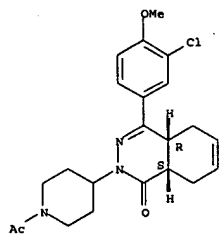
02/09/2007

L4 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 474122-98-0 CAPLUS
CN Piperidine, 1-acetyl-4-[(4aR,8aS)-4-[(3-chloro-4-methoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-, rel- (9CI)] (CA INDEX NAME)

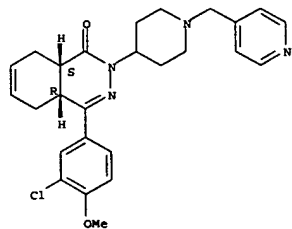
Relative stereochemistry.



RN 474122-99-1 CAPLUS
CN 1(2H)-Phthalazinone, 4-[(3-chloro-4-methoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-pyridinylmethyl)-4-piperidinyl]-, (4aR,8aS)-rel- (9CI)] (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

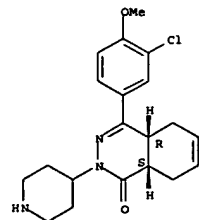


● x HCl

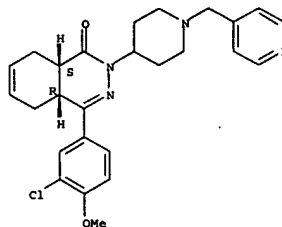
IT 474123-18-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of phthalazinones as phosphodiesterase 4/7 inhibitors)

RN 474123-18-7 CAPLUS
CN 1(2H)-Phthalazinone, 4-[(3-chloro-4-methoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, (4aR,8aS)-rel- (9CI)] (CA INDEX NAME)

Relative stereochemistry.

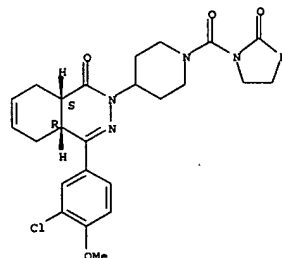


L4 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 474123-17-6 CAPLUS
CN Piperidine, 4-[(4aR,8aS)-4-[(3-chloro-4-methoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(2-oxo-1-imidazolidinyl)carbonyl]-, rel- (9CI)] (CA INDEX NAME)

Relative stereochemistry.



RN 474123-26-7 CAPLUS
CN 1(2H)-Phthalazinone, 4-[(3-chloro-4-methoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-pyridinylmethyl)-4-piperidinyl]-, hydrochloride, (4aR,8aS)-rel- (9CI)] (CA INDEX NAME)

Relative stereochemistry.

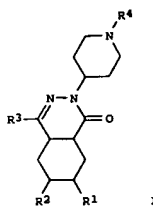
L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:637671 CAPLUS
DOCUMENT NUMBER: 137:185496
TITLE: Preparation of piperidinyl benzopyridazine derivatives
INVENTOR(S): as PDE4 inhibitors for treatment of airway disorders Hatzelmann, Armin; Bundschuh, Daniela; Kley, Hans-peter; Timmerman, Hendrik; Christiaens, Johannes A. M.; Grundler, Gerhard; Gutterer, Beate; Sterk, Geert Jan
PATENT ASSIGNEE(S): Byk Gulden Lomberg Chemische Fabrik GmbH, Germany
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002064584	A1	20020822	WO 2002-EP1547	20020214
W: AE, AL, AU, BA, BG, BR, CA, CN, CO, CU, CZ, DZ, EC, EE, GE, HR, HU, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, RO, SG, SI, SK, TN, UA, US, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RM: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
CA 2438520	A1	20020822	CA 2002-2438520	20020214
EE 200300311	A	20031015	EE 2003-311	20020214
EP 1362044	A1	20031119	EP 2002-701277	20020214
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
HU 200303193	A2	20031229	HU 2003-3193	20020214
BR 2002007278	A	20040210	BR 2002-7278	20020214
JP 2004518727	T	20040624	JP 2002-564515	20020214
CN 1524080	A	20040825	CN 2002-805038	20020214
NZ 527424	A	20050225	NZ 2002-527424	20020214
IN 2003MN00668	A	20050211	IN 2003-MN668	20030701
US 2004067946	A1	20040408	US 2003-467832	20030813
US 6953853	B2	20051011		
NO 2003003618	A	20031015	NO 2003-3618	20030814
BG 108124	A	20040831	BG 2003-108124	20030821
ZA 2003006815	A	20040617	ZA 2003-6815	20030901
US 200534062	A1	20051020	US 2005-143721	20050603
PRIORITY APPL. INFO.:			EP 2001-103496	A 20010215
			WO 2002-EP1547	W 20020214
			US 2003-467832	A1 20030813

OTHER SOURCE(S): MARPAT 137:185496
GI

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



AB Piperidinyl benzopyridazine derivs. [I; wherein R1 and R2 = H, or together form an addnl. bond; R3 = substituted benzene, benzopyran derivative; R4 = (C1-C4)alkoxy, optionally substituted with fluorine] were prepared
Thus, to a solution of
(4aS,8aR)-4-[(3,4-diethoxyphenyl)-2-piperidin-4-yl]-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one hydrochloride (synthetic preparation given) and
p-TsCl in pyridine is stirred to give (4aS,8aR)-4-[(3,4-diethoxyphenyl)-2-

[1-(toluene-4-sulfonyl)-piperidin-4-yl]-4a,5,8,8a-tetrahydro-2H-phthalazin-1-one. The prepared compds. are effective PDE4 inhibitors useful in the treatment of airway disorders.

IT 449760-14-9P 449760-15-0P 449760-16-1P
449760-17-2P 449760-18-1P 449760-19-4P
449760-20-7P 449760-21-8P 449760-22-9P
449760-23-0P 449760-24-1P 449760-25-2P
449760-26-3P 449760-27-4P 449760-28-5P
449760-29-6P 449760-30-9P 449760-31-0P
449760-32-1P 449760-33-2P 449760-34-3P
449760-35-4P 449760-36-5P 449760-37-6P
449760-38-7P 449760-39-8P 449760-40-1P
449760-41-2P 449760-42-3P 449760-43-4P
449760-44-5P 449760-47-8P 449760-48-9P
449760-49-0P 449760-50-3P 449760-51-4P
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449760-58-1P

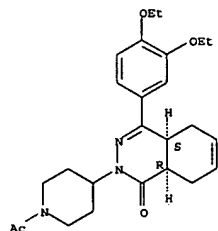
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of piperidinyl benzopyridazine derivs. as PDE4 inhibitors for treatment of airway disorders)

RN 449760-14-9 CAPLUS

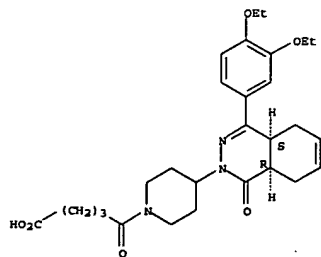
L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
tetrahydro-1-oxo-2(1H)-phthalazinyl]-8-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 449760-17-2 CAPLUS
CN 1-Piperidinepentanoic acid,
4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-8-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



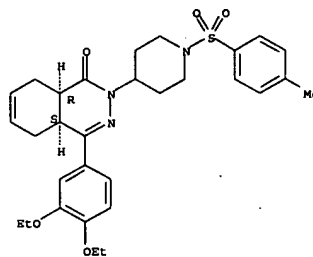
RN 449760-18-3 CAPLUS
CN Piperidine,
4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(4-pyridinylcarbonyl)-, monohydrochloride (9CI)
(CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

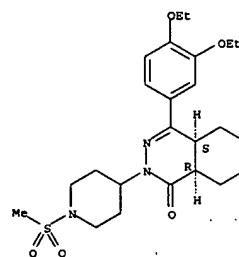
CN Piperidine,
4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(4-methylphenyl)sulfonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



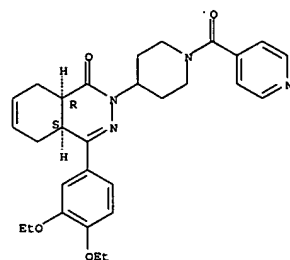
RN 449760-15-0 CAPLUS
CN Piperidine,
4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(methylsulfonyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 449760-16-1 CAPLUS
CN Piperidine, 1-acetyl-4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-

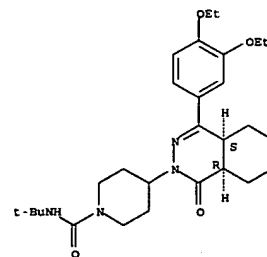
L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



• HCl

RN 449760-19-4 CAPLUS
CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

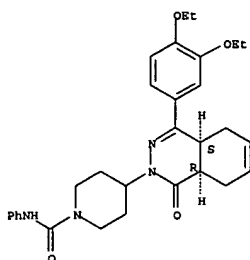
Absolute stereochemistry.



RN 449760-20-7 CAPLUS
CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-[(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-phenyl- (9CI) (CA INDEX NAME)

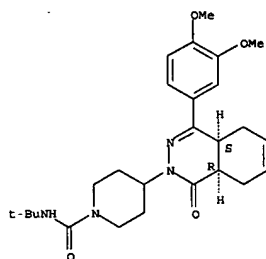
Absolute stereochemistry.

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-21-8 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aS,8aR)-4-{(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl}-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)]

Absolute stereochemistry.



RN 449760-22-9 CAPLUS
 CN 1-Piperidinecarboxamide, 4-[(4aR,8aS)-4-{(2,3-dihydro-7-methoxy-2,2-dimethyl-4-benzofuranyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl}-N-(1,1-dimethylethyl)-, rel- (9CI) (CA INDEX NAME)]

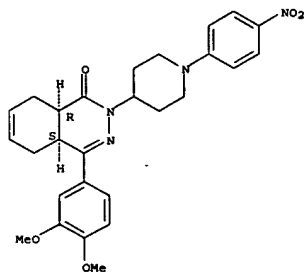
Relative stereochemistry.

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-A

RN 449760-24-1 CAPLUS
 CN 1(2H)-Phthalazinone, 4-{(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-nitrophenyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)]

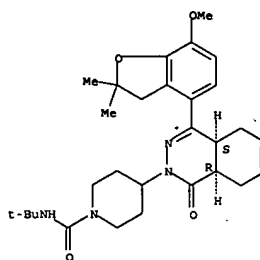
Absolute stereochemistry.



RN 449760-25-2 CAPLUS
 CN 1(2H)-Phthalazinone, 4-{(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(4-pyridinylmethyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)]

Absolute stereochemistry.

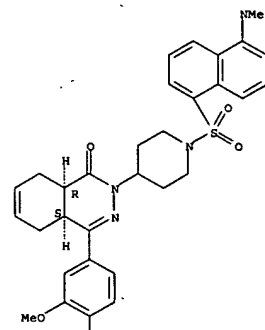
L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



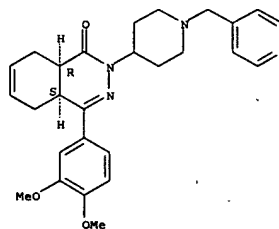
RN 449760-23-0 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-{(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl}-1-[[5-(dimethylamino)-1-naphthalenyl]sulfonyl]- (9CI) (CA INDEX NAME)]

Absolute stereochemistry.

PAGE 1-A

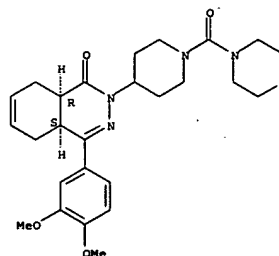


L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-26-3 CAPLUS
 CN Morpholine, 4-[(4aS,8aR)-4-{(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl}-1-piperidinyl]carbonyl- (9CI) (CA INDEX NAME)]

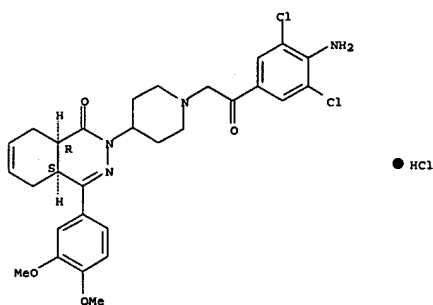
Absolute stereochemistry.



RN 449760-27-4 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[1-[2-(4-amino-3,5-dichlorophenyl)-2-oxoethyl]-4-piperidinyl]-4-{(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl}-, (4aS,8aR)- (9CI) (CA INDEX NAME)]

Absolute stereochemistry.

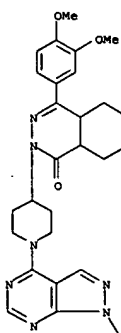
L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-28-5 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-
 methyl-1H-pyrazolo[3,4-d]pyrimidin-4-yl)-4-piperidinyl]- (9CI) (CA INDEX
 NAME)

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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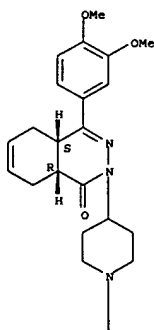
PAGE 2-A

RN 449760-29-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-
 thieno[2,3-d]pyrimidin-4-yl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX
 NAME)

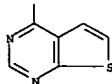
Absolute stereochemistry.

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

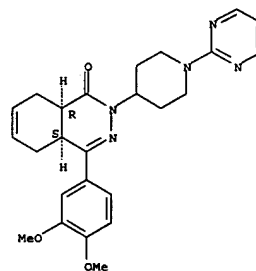


PAGE 2-A



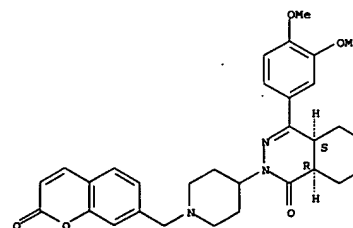
RN 449760-30-9 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-
 pyrimidinyl)-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)
 Absolute stereochemistry.

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-31-0 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-((2-
 oxo-2H-1-benzopyran-7-yl)methyl)-4-piperidinyl]-, monohydrochloride,
 (4aS,8aR)- (9CI) (CA INDEX NAME)

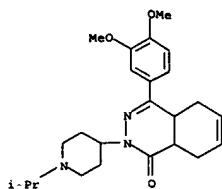
Absolute stereochemistry.



● HCl

RN 449760-32-1 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-((3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(1-
 methyl-1H-pyrazolo[3,4-d]pyrimidin-4-yl)-4-piperidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



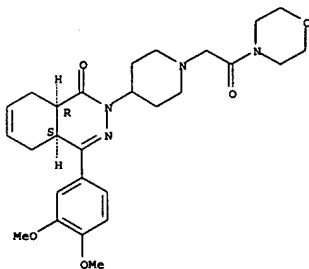
● HCl

RN 449760-33-2 CAPLUS

CN Morpholine,

4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

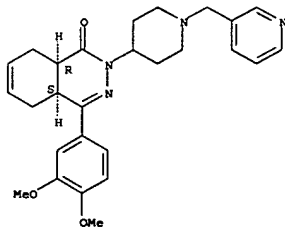
RN 449760-34-3 CAPLUS

CN 1(2H)-Phthalazinone,

4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-phenylethyl)-4-piperidinyl]-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) INDEX NAME)

Absolute stereochemistry.



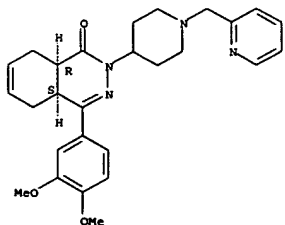
● 2 HCl

RN 449760-37-6 CAPLUS

CN 1(2H)-Phthalazinone,

4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-pyridinylmethyl)-4-piperidinyl]-, dihydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● 2 HCl

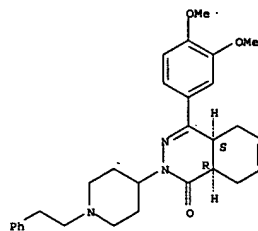
RN 449760-38-7 CAPLUS

CN Morpholine,

4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-

Habe

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) Absolute stereochemistry.



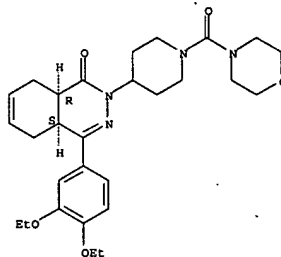
● HCl

RN 449760-35-4 CAPLUS

CN Morpholine,

4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

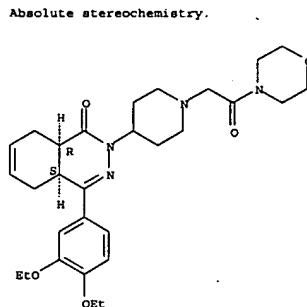


RN 449760-36-5 CAPLUS

CN 1(2H)-Phthalazinone,

4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(3-pyridinylmethyl)-4-piperidinyl]-, dihydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) Absolute stereochemistry.



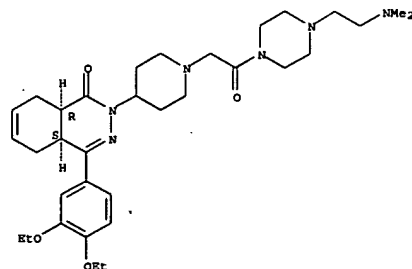
● HCl

RN 449760-39-8 CAPLUS

CN 1-Piperazineethanamine,

4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-N,N-dimethyl-, trihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



PAGE 1-A

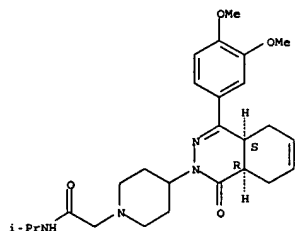
L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-A

● 3 HCl

RN 449760-40-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-N-(1-methylethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

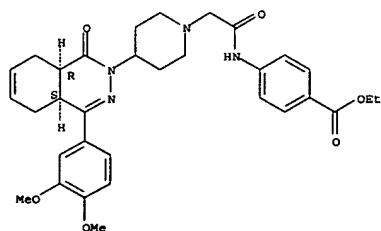


RN 449760-41-2 CAPLUS
 CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(4-(1,2,3-thiadiazol-4-yl)phenyl)methyl]-4-piperidinyl]-, dihydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

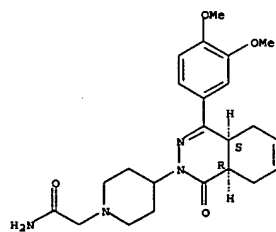
Absolute stereochemistry.



● HCl

RN 449760-44-5 CAPLUS
 CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



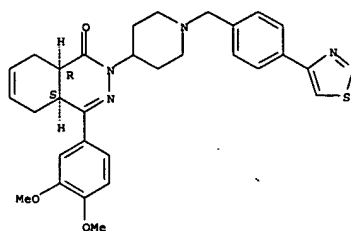
● HCl

RN 449760-47-8 CAPLUS
 CN Piperidine, 4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(4-pyridinylcarbonyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Habte

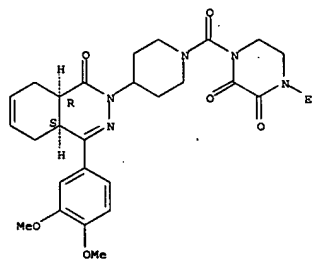
L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● 2 HCl

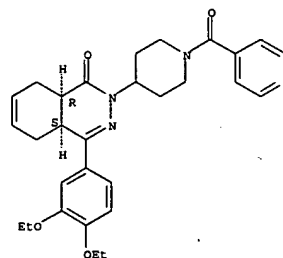
RN 449760-42-3 CAPLUS
 CN 2,3-Piperazinedione, 1-[(4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl)carbonyl]-4-ethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



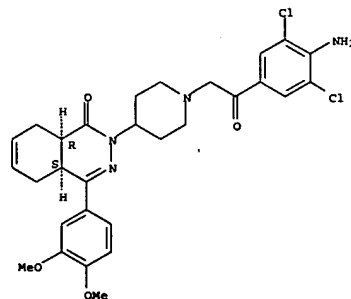
RN 449760-43-4 CAPLUS
 CN Benzoic acid, 4-[(4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl)acetyl]amino]-, ethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-48-9 CAPLUS
 CN 1(2H)-Phthalazinone, 2-[1-[2-(4-amino-3,5-dichlorophenyl)-2-oxoethyl]-4-piperidinyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

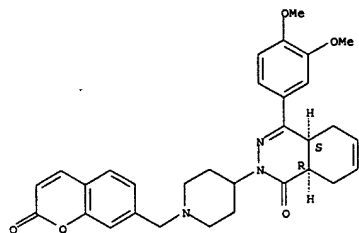


RN 449760-49-0 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[(2-oxo-2H-1-benzopyran-7-yl)methyl]-4-piperidinyl]-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

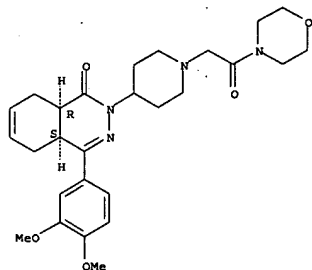
02/09/2007

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-50-3 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

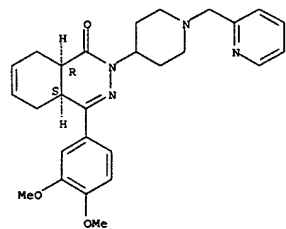
Absolute stereochemistry.



RN 449760-51-4 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-phenylethyl)-4-piperidinyl]-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

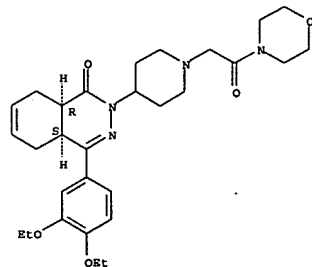
Absolute stereochemistry.

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-54-7 CAPLUS
 CN Morpholine,
 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]- (9CI) (CA INDEX NAME)

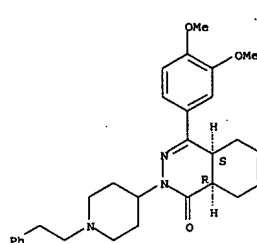
Absolute stereochemistry.



RN 449760-55-8 CAPLUS
 CN 1-Piperazineethanamine,
 4-[[4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)

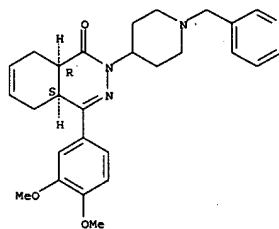
Absolute stereochemistry.

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-52-5 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(3-pyridinylmethyl)-4-piperidinyl]-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

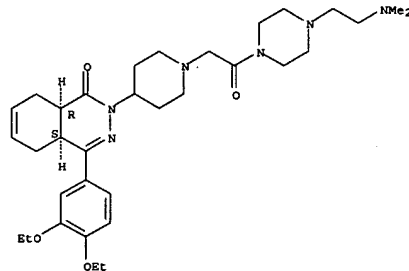
Absolute stereochemistry.



RN 449760-53-6 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-(2-phenylethyl)-4-piperidinyl]-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

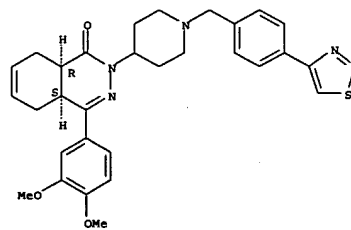
Absolute stereochemistry.

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-56-9 CAPLUS
 CN 1(2H)-Phthalazinone,
 4-[(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-[1-[[4-(1,2,3-thiadiazol-4-yl)phenyl]methyl]-4-piperidinyl]-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

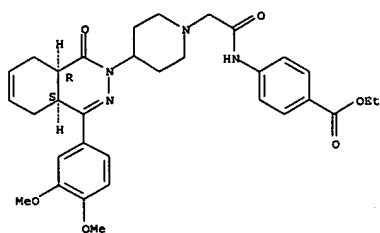
Absolute stereochemistry.



RN 449760-57-0 CAPLUS
 CN Benzoic acid, 4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]acetyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

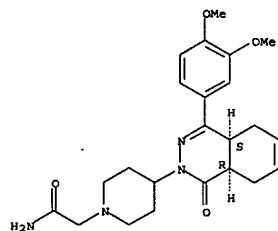
Absolute stereochemistry.

L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 449760-58-1 CAPLUS
 CN 1-Piperidineacetamide, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

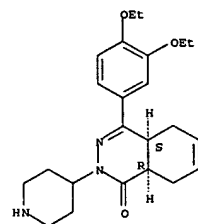


IT 380226-97-1P 380227-12-3P 380227-13-4P
 449760-45-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of piperidinyl benzopyridazine derivs. as PDE4 inhibitors for treatment of airway disorders)

RN 380226-97-1 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

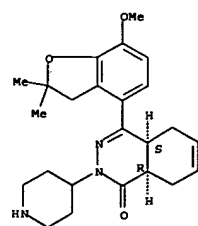
L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● HCl

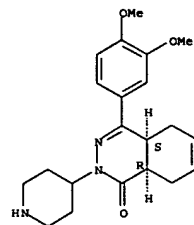
RN 449760-45-6 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

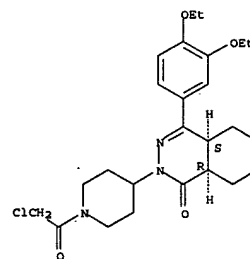
L4 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● HCl

RN 380227-12-3 CAPLUS
 CN Piperidine, 1-(chloroacetyl)-4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 380227-13-4 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2001:904118 CAPLUS
 DOCUMENT NUMBER: 136:37625
 TITLE: Preparation of pyridazinones as β 2-adrenoreceptor agonists and PDE4 inhibitors
 INVENTOR(S): Hatzelmann, Armin; Bundschuh, Daniela; Eltze, Manfred;
 Van der Laan, Yvonne; Timmermann, Hendrik; Christians, Johannes; Brundel, Paulus; Sterk, Geert
 PATENT ASSIGNEE(S): Byk Gulden Lomberg Chemische Fabrik G.m.b.H., Germany;
 SOURCE: Byk Nederland B.V.
 PCT Int. Appl., 79 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001094319	A1	20011213	WO 2001-EP6230	20010601
W: AE, AL, AU, BA, BG, BR, CA, CN, CO, CU, CZ, EC, EE, GE, HR, HU, ID, IL, IN, IS, JP, KR, LT, LV, MK, MX, NO, NZ, PL, RO, SG, SI, SK, UA, US, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
CA 2411351	A1	20011213	CA 2001-2411351	20010601
EP 1296956	A1	20030402	EP 2001-936419	20010601
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001011440	A	20030603	BR 2001-11440	20010601
JP 2003535850	T	20031202	JP 2002-501869	20010601
HU 200301240	A2	20031229	HU 2003-1240	20010601
NZ 522882	A	20040730	NZ 2001-522882	20010601
IN 2002MN01591	A	20050318	IN 2002-MN1591	20021111
ZA 2002009598	A	20030729	ZA 2002-9598	20021126
NO 2002005811	A	20030204	NO 2002-5811	20021203
US 2003195215	A1	20031016	US 2003-296411	20030402
US 6933296	B2	20050823		
PRIORITY APPLN. INFO.:			EP 2000-111795	A 20000605
			WO 2001-EP6230	W 20010601

OTHER SOURCE(S): MARPAT 136:37625
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. [I; Ar1 = substituted Ph, dihydrobenzofuranyl; R6, R7 = H, alkyl; or R6 and R7 together and with inclusion of the two carbon atoms, to which they are bonded, form II-V; A = CmH2mYXnH2n, YXmH2mZnH2n; X = a bond, O, S, etc.; Y = a bond, phenylene, cycloalkylene, etc.; Z = O, S, SO2, etc.; m = 0-4; n = 1-4; R8 = H, alkyl;
 Ar2 = 8-hydroxy-1H-quinolin-2-on-5-yl, substituted Ph], useful as novel effective bronchial therapeutics, were prepared The general procedures

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
prepn. of compds. I such as (cis)-VI-fumarate were described. Biol. data for compds. I were given.

IT 380226-56-2P 380226-64-2P 380226-65-3P
380226-67-5P 380226-69-7P 380226-71-1P
380226-72-2P 380226-74-4P 380226-77-7P
380226-78-8P 380226-80-2P

RL, PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of pyridazinones as β 2-adrenoreceptor agonists and PDE4 inhibitors)

RN 380226-56-2 CAPLUS

CN Piperidine, 1-[[2-(4-amino-3-chloro-5-cyanophenyl)-2-hydroxyethyl]amino]-1-oxobutyl]-4-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-, (2E)-2-butenedioate

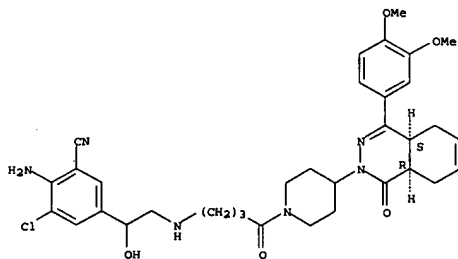
(1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 380226-55-1

CMF C34 H41 Cl N6 O5

Absolute stereochemistry.



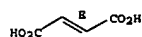
CM 2

CRN 110-17-8

CMF C4 H4 O4

Double bond geometry as shown.

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 380226-64-2 CAPLUS

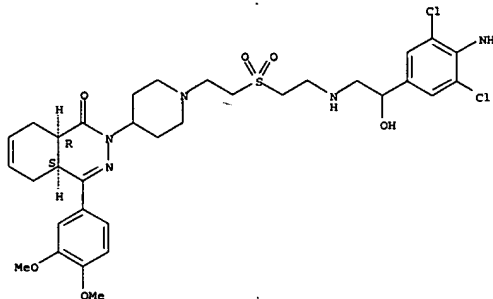
CN 1(2H)-Phthalazinone, 2-[1-[2-[[2-(4-amino-3,5-dichlorophenyl)-2-hydroxyethyl]amino]ethyl]sulfonyl]ethyl]-4-piperidinyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, (4aS,8aR)-, (2E)-2-butenedioate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 380226-63-1

CMF C33 H43 Cl2 N5 O6 S

Absolute stereochemistry.

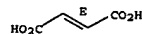


CM 2

CRN 110-17-8

CMF C4 H4 O4

Double bond geometry as shown.



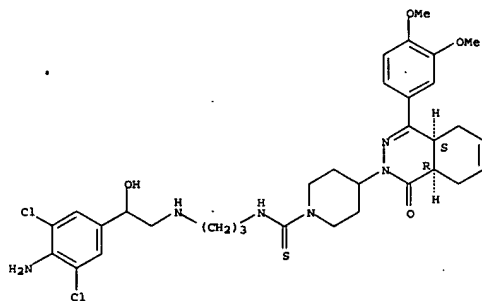
RN 380226-65-3 CAPLUS

CN 1-Piperidinecarbothioamide, N-[3-[[2-(4-amino-3,5-dichlorophenyl)-2-

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

hydroxyethyl]amino]propyl]-4-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 380226-67-5 CAPLUS

CN Piperidine, 1-[[2-(4-amino-3,5-dichlorophenyl)-2-hydroxyethyl]amino]acetyl]-4-[[4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-, (2E)-2-butenedioate (1:1) (salt) (9CI) (CA INDEX NAME)

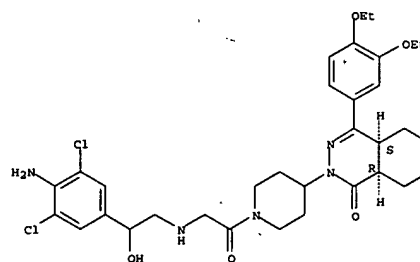
CM 1

CRN 380226-66-4

CMF C33 H41 Cl2 N5 O5

Absolute stereochemistry.

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

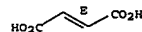


CM 2

CRN 110-17-8

CMF C4 H4 O4

Double bond geometry as shown.



RN 380226-69-7 CAPLUS

CN Piperidine, 1-[[2-[[2-(4-amino-3,5-dichlorophenyl)-2-hydroxyethyl]amino]ethyl]sulfonyl]-4-[[4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-, (2E)-2-butenedioate (1:1) (salt) (9CI) (CA INDEX NAME)

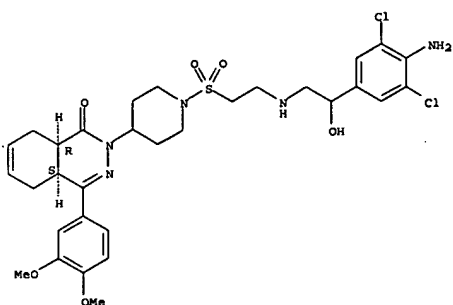
CM 1

CRN 380226-68-6

CMF C31 H39 Cl2 N5 O6 S

Absolute stereochemistry.

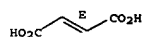
L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



CM 2

CRN 110-17-8
CMF C4 H4 O4

Double bond geometry as shown.



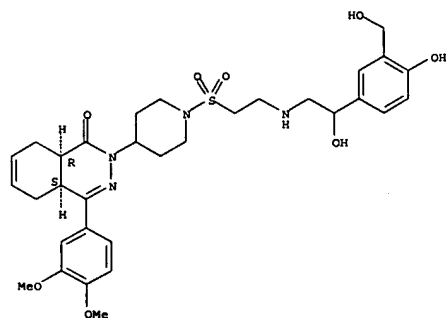
RN 380226-71-1 CAPLUS
CN Piperidine, 1-[(2S)-2-[[2-(3,4-diamino-5-chlorophenyl)-2-hydroxyethyl]amino]-1-oxopropyl]-4-[(4a,5,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)-, (2E)-2-butenedioate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 380226-70-0
CMF C32 H41 Cl N6 O5

Absolute stereochemistry.

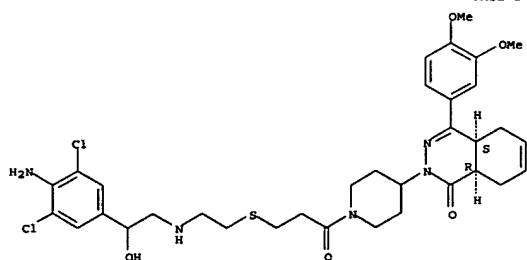
L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 380226-74-4 CAPLUS
CN Piperidine, 1-[[3-[[2-[[2-(4-amino-3,5-dichlorophenyl)-2-hydroxyethyl]amino]ethyl]thio]-1-oxopropyl]-4-[(4a,5,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

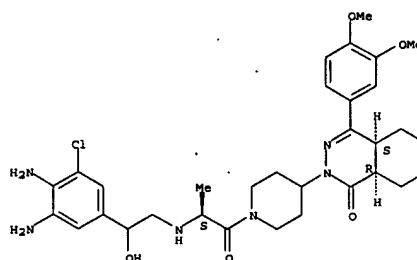


PAGE 2-A

● HCl

Habte

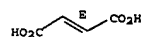
L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



CM 2

CRN 110-17-8
CMF C4 H4 O4

Double bond geometry as shown.



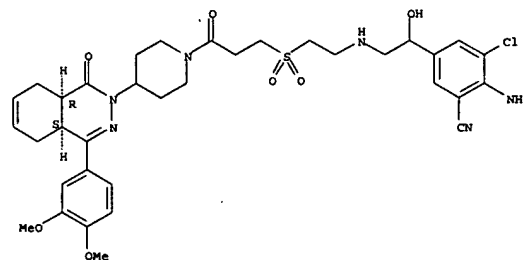
RN 380226-72-2 CAPLUS
CN Piperidine, 4-[(4a,5,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)-1-[[2-[[2-hydroxy-2-[(4-hydroxy-3-(hydroxymethyl)phenyl]ethyl]amino]ethyl]sulfonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RN 380226-77-7 CAPLUS
CN Piperidine, 1-[[3-[[2-[[2-((4-amino-3-chloro-5-cyanophenyl)-2-hydroxyethyl)amino]ethyl]sulfonyl]-1-oxopropyl]-4-[(4a,5,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)-, monohydrochloride (9CI) (CA INDEX NAME)

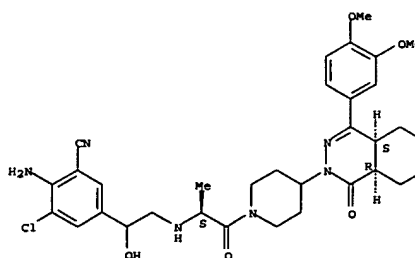
Absolute stereochemistry.



RN 380226-78-8 CAPLUS
CN Piperidine, 1-[(2S)-2-[[2-((4-amino-3-chloro-5-cyanophenyl)-2-hydroxyethyl)amino]-1-oxopropyl]-4-[(4a,5,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl)-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



02/09/2007

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
PAGE 2-A

● HCl

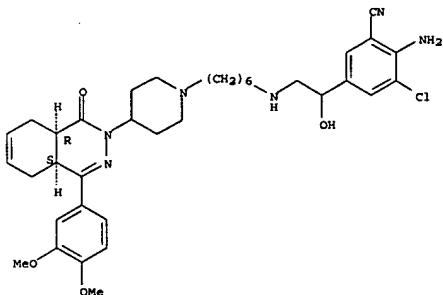
RN 380226-80-2 CAPLUS
CN Benzonitrile, 2-amino-3-chloro-5-[2-[[6-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]hexyl]amino]-1-hydroxyethyl]-, (2E)-2-butenedioate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 380226-79-9

CMF C36 H47 Cl N6 O4

Absolute stereochemistry.

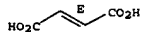


CM 2

CRN 110-17-8

CMF C4 H4 O4

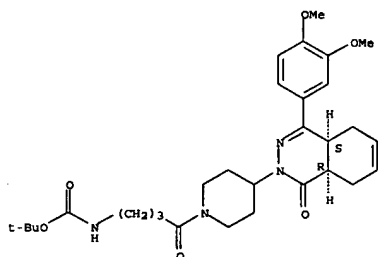
Double bond geometry as shown.



IT 380226-94-8P 380226-95-9P 380226-96-0P
380226-97-1P 380227-08-7P 380227-10-1P

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
CN Carbamic acid, [4-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]-4-oxobutyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

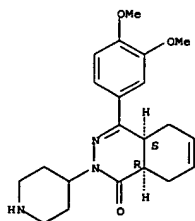
Absolute stereochemistry.



RN 380226-96-0 CAPLUS

CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8a-tetrahydro-2-(4-piperidinyl)-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 380226-97-1 CAPLUS

CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-4a,5,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

380227-11-2P 380227-12-3P 380227-13-4P
380227-14-5P 380227-15-6P 380227-16-7P
380227-17-8P 380227-18-9P 380227-19-0P
380227-20-3P 380227-21-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of pyridazinones as β 2-adrenoreceptor agonists and PDE4 inhibitors)

RN 380226-94-8 CAPLUS

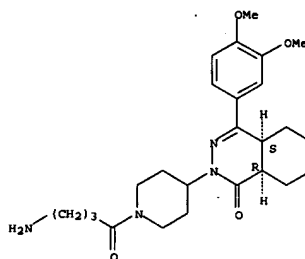
CN Piperidine, 1-(4-amino-1-oxobutyl)-4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 380226-93-7

CMF C25 H34 N4 O4

Absolute stereochemistry.



CM 2

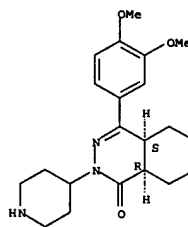
CRN 76-05-1

CMF C2 H F3 O2



RN 380226-95-9 CAPLUS

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

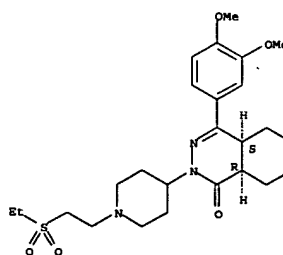


● HCl

RN 380227-08-7 CAPLUS

CN 1(2H)-Phthalazinone, 4-[(3,4-dimethoxyphenyl)-2-[1-[2-(ethylsulfonyl)ethyl]-4-piperidinyl]-4a,5,8a-tetrahydro-, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 380227-10-1 CAPLUS

CN 1-Piperidinecarboxamide, N-(4-aminobutyl)-4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 380227-09-8

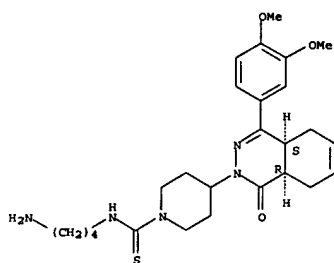
CMF C26 H37 N5 O3 S

Hahte

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L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Absolute stereochemistry.



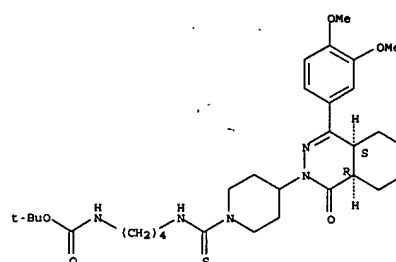
CM 2

CRN 76-05-1
CMP C2 H F3 O2

RN 380227-11-2 CAPLUS
CN Carbamic acid, 4-[[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]thioxomethyl]amino]butyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

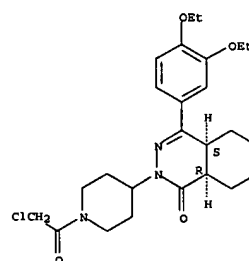
Absolute stereochemistry.

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 380227-12-3 CAPLUS
CN Piperidine, 1-(chloroacetyl)-4-[(4aS,8aR)-4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

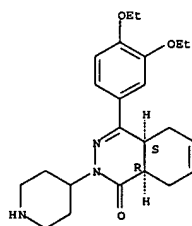
Absolute stereochemistry.



RN 380227-13-4 CAPLUS
CN 1(2H)-Phthalazinone, 4-(3,4-diethoxyphenyl)-4a,5,8,8a-tetrahydro-2-(4-piperidinyl)-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

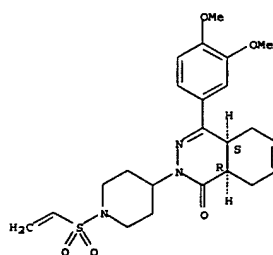
L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● HCl

RN 380227-14-5 CAPLUS
CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-(ethenylsulfonyl)- (9CI) (CA INDEX NAME)

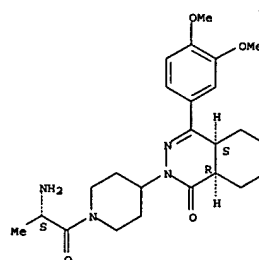
Absolute stereochemistry.



RN 380227-15-6 CAPLUS
CN Piperidine, 1-[(2S)-2-amino-1-oxopropyl]-4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

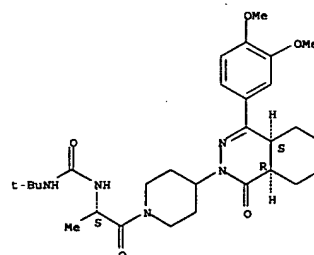
Absolute stereochemistry.

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 380227-16-7 CAPLUS
CN Piperidine, 4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-[(2S)-2-[[[1,1-dimethylethyl]amino]carbonyl]amino]-1-oxopropyl]- (9CI) (CA INDEX NAME)

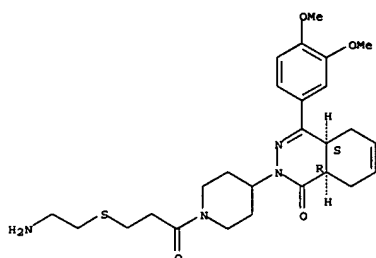
Absolute stereochemistry.



RN 380227-17-8 CAPLUS
CN Piperidine, 1-[3-[(2-aminoethyl)thio]-1-oxopropyl]-4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]- (9CI) (CA INDEX NAME)

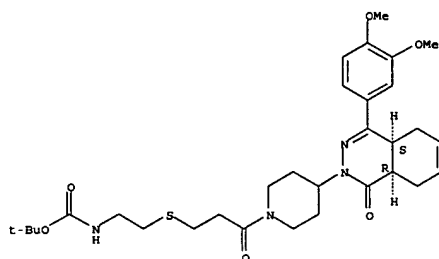
Absolute stereochemistry.

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 380227-18-9 CAPLUS
 CN Carbamic acid, [2-[[[3-[[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]-3-oxopropyl]thio]ethyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

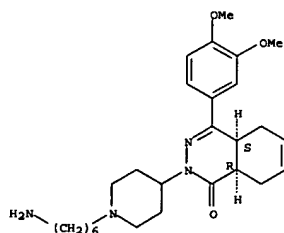
Absolute stereochemistry.



RN 380227-19-0 CAPLUS
 CN Piperidine, 1-[3-[[[2-aminoethyl]sulfonyl]-1-oxopropyl]-4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

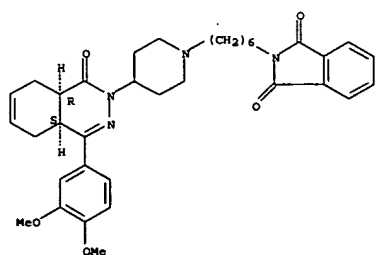
L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● HCl

RN 380227-21-4 CAPLUS
 CN 1H-isoindole-1,3(2H)-dione, 2-[6-[4-[(4aS,8aR)-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-1-oxo-2(1H)-phthalazinyl]-1-piperidinyl]hexyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

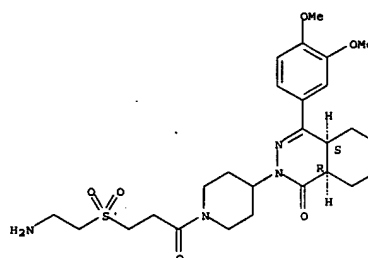


REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
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L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



PAGE 2-A

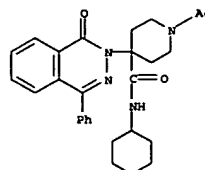
● HCl

RN 380227-20-3 CAPLUS
 CN 1(2H)-phthalazinone, 2-[1-(6-aminoethyl)-4-piperidinyl]-4-(3,4-dimethoxyphenyl)-4a,5,8,8a-tetrahydro-, monohydrochloride, (4aS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:48106 CAPLUS
 DOCUMENT NUMBER: 134:266260
 TITLE: Studies on isocyanides and related compounds; a facile synthesis of 4-phenyl-1-(2H)phthalazinone-2-alkanoic acid amides
 AUTHOR(S): Marceccini, Stefano; Pepino, Roberto; Polo, Cecilia; Pozo, Ma Cruz
 CORPORATE SOURCE: CNR, Centro di Studio sulla Chimica e la Struttura dei Composti Eterociclici e loro Applicazioni, Dipartimento di Chimica Organica "Ugo Schiff", Università di Firenze, Florence, 50121, Italy
 SOURCE: Synthesis (2001), (1), 85-88
 CODEN: SYNTBF; ISSN: 0039-7881
 PUBLISHER: Georg Thieme Verlag
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 134:266260
 AB A convenient synthesis of 4-phenyl-1-oxo-(2H)phthalazine-2-alkanoic acid amides by the Ugi 4-component condensation (Ugi 4-CC) is reported. The reaction between acetaldehyde azine, 2-benzoylbenzoic acid, and cyclohexyl isocyanide spontaneously afforded N-cyclohexyl-2-(1,2-dihydro-1-oxo-4-phenylphthalazin-2-yl)propionamide upon elimination of MeCHO from the intermediate Ugi 4-CC adduct. Starting from less reactive azines arising from ketones, the corresponding Ugi 4-CC adducts did not spontaneously cyclize, whereas phenylacetaldehyde azine afforded a mixture of the Ugi 4-CC adduct and cyclized product. In all of the cases, the adducts were easily cyclized in acidic medium.
 IT 332049-47-5P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of oxophthalazinealkanoic amides)
 RN 332049-47-5 CAPLUS
 CN 4-Piperidinecarboxamide, 1-acetyl-N-cyclohexyl-4-(1-oxo-4-phenyl-2(1H)-phthalazinyl)- (9CI) (CA INDEX NAME)



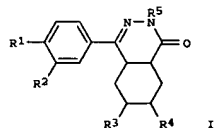
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
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02/09/2007

L4 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L4 ANSWER 20 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1998:509189 CAPLUS
 DOCUMENT NUMBER: 129:136174
 TITLE: Preparation of arylphthalazinones as inhibitors of cyclic nucleotide phosphodiesterase.
 INVENTOR(S): Van Der Mey, Margaretha; Van Der Leen, Ivonne
 Johannes;
 Timmerman, Hendrik; Hatzelmann, Armin; Boss, Hildegard; Hafner, Dietrich; Beume, Rolf; Kley, Hans-Peter; Sterk, Geert Jan
 PATENT ASSIGNER(S): Byk Gulden Lomberg Chemische Fabrik G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 59 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

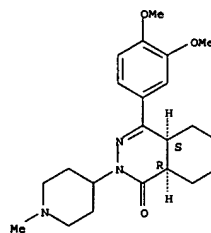
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9831674	A1	19980723	WO 1998-EP124	19980112
W: AL, AU, BA, BG, BR, CA, CN, CZ, EE, GE, HU, ID, IL, JP, KR, LT, LV, MK, MX, NO, NZ, PL, RO, SG, SI, SK, TR, UA, US, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2276455	A1	19980723	CA 1998-2276455	19980112
CA 2276455	C	20061031		
AU 9858629	A	19980807	AU 1998-58629	19980112
AU 735934	B2	20010719		
EP 971901	A1	20000119	EP 1998-901959	19980112
EP 971901	B1	20030226		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EE 9900274	A	20000215	EE 1999-274	19980112
EE 1968	B1	20030217		
BR 9806752	A	20000314	BR 1998-6752	19980112
NZ 336573	A	20001027	NZ 1998-336573	19980112
HU 200001541	A2	20010528	HU 2000-1541	19980112
JP 2001508078	T	20010619	JP 1998-533635	19980112
IL 130659	A	20020725	IL 1998-130659	19980112
AT 233247	T	20030315	AT 1998-901959	19980112
SK 283270	B6	20030401	SK 1998-951	19980112
PT 971901	T	20030731	PT 1998-901959	19980112
ES 2193508	T3	20031101	ES 1998-901959	19980112
CN 1127487	B	20031112	CN 1998-803169	19980112
CZ 293815	B6	20040818	CZ 1999-2533	19980112
PL 189418	B1	20050831	PL 1998-334561	19980112
NO 9903301	A	19990910	NO 1999-3301	19990702
NO 313137	B1	20020819		
US 6103718	A	20000815	US 1999-341135	19990714
HK 1024692	A1	20030620	HK 2000-103993	20000630
PRIORITY APPL. INFO.:			EP 1997-100488	A 19970115
			WO 1998-EP124	W 19980112

L4 ANSWER 20 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
OTHER SOURCE(S): MARPAT 129:136174
GI

AB Title compds. (I; R1 = alkoxy, fluoroalkoxy; R2 = alkoxy, cycloalkoxy, cycloalkylmethoxy, fluoroalkoxy; R3, R4 = H, or R3R4 = bond; R5 = R6, (CH2)MR7, (CH2)NCOR8, CH(R9)2, (CH2)PAR; R6 = H, alkyl, cycloalkyl, cycloalkylmethyl, alkenyl, alkynyl, naphthyl, phenylalkenyl, pyridyl, pyrazinyl, indanyl, etc.; R7 = OH, halo, cyano, NO2, ONO2, CO2H, PhO, alkoxy, cycloalkoxy, alkylcarbonylamino, etc.; R8 = (substituted) Ph, naphthyl, phenanthryl, anthracenyl; R9 = (CH2)qPh; Ar = naphthyl, pyridyl, pyrazinyl, pyridazinyl, pyrimidinyl, quinazolinyl, cinnolinyl, isoquinolinyl, imidazolyl, pyrazolyl, oxazolyl, thiazolyl, furyl, thienyl, pyrrolyl, (substituted) Ph, etc.; m = 1-8; n = 1-4; p = 1-6; q = 0-2), were prepared. Thus, cis-4-(3,4-dimethoxyphenyl)-2-propyl-4a,5,6,7,8,8a-hexahydro-2H-phthalazin-1-one (preparation outlined) inhibited PDE 4 with -log IC50 > 7.5.
 IT 210466-87-8P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation of arylphthalazinones as inhibitors of cyclic nucleotide phosphodiesterase)
 RN 210466-87-8 CAPLUS
 CN 1(2H)-Phthalazinone, 4-(3,4-dimethoxyphenyl)-4a,5,6,7,8,8a-hexahydro-2-(1-methyl-4-piperidinyl)-, (4aR,8aS)-rel-, (2E)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)
 CM 1
 CRN 210466-86-7
 CPM C22 H31 N3 O3

Relative stereochemistry.

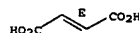
L4 ANSWER 20 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



CM 2

CRN 110-17-8
CMF C4 H4 O4

Double bond geometry as shown.



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L4 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1961:76261 CAPLUS
 DOCUMENT NUMBER: 55:76261
 ORIGINAL REFERENCE NO.: 55:14491a-e
 TITLE: Pyridazine derivatives
 PATENT ASSIGNEE(S): Sandoz Ltd.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

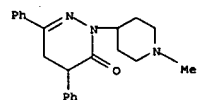
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 858792		19610118	GB 1959-3664	19590202

AB Pyridazine derivs. showing slight toxicity and good analgetic action were prepared 1-Methyl-4-piperidylhydrazine (I) (55.6 g.) and 50 g. AcCH₃CO₂H refluxed 19 hrs. in alc., the alc. removed, the residue dissolved in CHCl₃, extracted with 2N HCl, made alkaline, extracted with CHCl₃, and concentrated gave

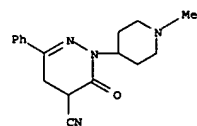
4,6-dimethyl-2-(1-methyl-4-piperidyl)-4,5-dihydro-3(2H)-pyridazinone, m. 107-11°. This compound (10 g.) in 100 cc. AcOH treated dropwise with 7.66 g. Br, the solvent removed at 100°, the residue extracted from alkaline solution with CHCl₃, and chromatographed on Al₂O₃ gave 4,6-dimethyl-2-(1-methyl-4-piperidyl)-3(2H)-pyridazinone, m. 87-9°, HBr salt m. 250-2°. Similarly, I and the appropriate γ-oxobutyric acids gave the following 2-(1-methyl-4-piperidyl)-3(2H)-pyridazinones (substituents, m.p. and m.p. of 4,5-dihydro analog given): 6-Ph, 122-5° (HBr salt m. 310°), 153-5°; 4,6-Ph₂, 142-3°, 138-60°; 4,6-Me₂, - (HCl salt m. 252-4°), 92-4° (HCl salt m. 246-50°); 4,6-MePh, 284°, 124°; 6-(p-MeOC₆H₄), - (tartrate m. 199-200°), 107-8°; 6-(bromo-β-thienyl), - (HCl salt m. 286°), 103-5° [for 6-(β-thienyl) derivative]; 4,5,6-Et₂Ph, - (HCl salt m. 268-70°, HBr salt m. 262-4°), -; 4,6-PhMe, 140° (HCl salt m. 228°), -; and 6,4-Ph(CN), 223° (HCl salt m. 280°), 183-5°. I (55.73 g.) in 200 cc. alc. added dropwise at 15° to 37.15 g. Ac₂O (II) in 200 cc. C₆H₆, the mixture kept overnight, and refluxed 15 min., the solvent removed, and the residue distilled in vacuo gave 2,3-butanedione mono(1-methyl-4-piperidylhydrazine) (III), b.p. 125-30°. NCH₃CO₂Et (11.3 g.), 16.4 g. III, 8.0 g. AcOH, and 5.13 g. NH₄OAc refluxed 17 hrs. in 100 cc. C₆H₆ with separation of H₂O, concentrated at 50° in vacuo, the oil diluted with CHCl₃, shaken with 2N NaOH, concentrated, and chromatographed on Al₂O₃ gave

4-cyano-5,6-dimethyl-2-(1-methyl-4-piperidyl)-3(2H)-pyridazinone, m. 103-5° (Et₂O); HCl salt m. 263-6°; HBr salt m. 238-9°. Similarly; 1,2-cyclohexanedione and I gave 1,2-cyclohexanedione mono(1-methyl-4-piperidylhydrazine), b.p. 112-20°, and 4-cyano-5,6-cyclooctamethylene-2-(1-methyl-4-piperidyl)-3(2H)-pyridazinone (HCl salt m. 247-50°). 1-Isopropyl-4-piperidylhydrazine and I gave 2,3-butanedione mono(1-isopropyl-4-piperidylhydrazine), m. 84-7°.

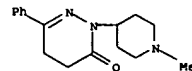
L4 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



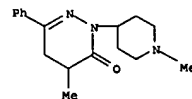
RN 860411-95-6 CAPLUS
 CN 4-Pyridazinecarbonitrile, 2,3,4,5-tetrahydro-2-(1-methyl-4-piperidyl)-3-oxo-6-phenyl- (6CI) (CA INDEX NAME)



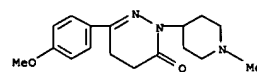
L4 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 and 4-cyano-5,6-dimethyl-2-(1-isopropyl-4-piperidyl)-3(2H)-pyridazinone (hydrochloride m. 276-8°).
 IT 101268-89-7P, 3(2H)-Pyridazinone, 4,5-dihydro-2-(1-methyl-4-piperidyl)-6-phenyl- 101599-83-1P, 3(2H)-Pyridazinone, 4,5-dihydro-4-methyl-2-(1-methyl-4-piperidyl)-6-phenyl- 101599-90-0P, 3(2H)-Pyridazinone, 4,5-dihydro-6-(p-methoxyphenyl)-2-(1-methyl-4-piperidyl)- 102556-72-9P, 3(2H)-Pyridazinone, 4,5-dihydro-2-(1-methyl-4-piperidyl)-4,6-diphenyl- 860411-95-6P, 4-Pyridazinecarbonitrile, 2,3,4,5-tetrahydro-2-(1-methyl-4-piperidyl)-3-oxo-6-phenyl-
 RL: PREP (Preparation)
 (preparation of)
 RN 101268-89-7 CAPLUS
 CN 3(2H)-Pyridazinone, 4,5-dihydro-2-(1-methyl-4-piperidyl)-6-phenyl- (6CI) (CA INDEX NAME)



RN 101599-83-1 CAPLUS
 CN 3(2H)-Pyridazinone, 4,5-dihydro-4-methyl-2-(1-methyl-4-piperidyl)-6-phenyl- (6CI) (CA INDEX NAME)



RN 101599-90-0 CAPLUS
 CN 3(2H)-Pyridazinone, 4,5-dihydro-6-(p-methoxyphenyl)-2-(1-methyl-4-piperidyl)- (6CI) (CA INDEX NAME)



RN 102556-72-9 CAPLUS
 CN 3(2H)-Pyridazinone, 4,5-dihydro-2-(1-methyl-4-piperidyl)-4,6-diphenyl- (6CI) (CA INDEX NAME)

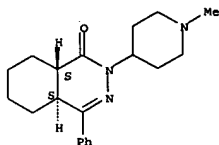
L4 ANSWER 22 OF 22 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1960:118213 CAPLUS
 DOCUMENT NUMBER: 54:118213
 ORIGINAL REFERENCE NO.: 54:22593b-1
 TITLE: Synthetic drugs. V. Preparation of basically substituted 6-pyridazinones
 AUTHOR(S): Jucker, E.; Suess, R.
 CORPORATE SOURCE: Sandoz, Basel, Switz.
 SOURCE: Helvetica Chimica Acta (1959), 42, 2506-14
 CODEN: HCAAV; ISSN: 0018-019X
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 AB cf. preceding abstract Basically substituted pyridazinones were prepared by

known methods. The already known 2-benzoylcyclohexane-1-carboxylic acid of m.p. 139-40° (Fieser and Novello, CA 36, 31715) was assigned the cis configuration; the epimeric trans derivative also was prepared. Some of the prepared compds. showed analgesic properties. To a cooled solution of KCN in water β-benzoylacrylic acid was added with stirring. The precipitated K salt was filtered off, dissolved in water and treated with 2N HCl to give 62% α-cyano-β-benzoylpropionic acid, separated as an oil, m. 101-3° (Et₂O). trans-2-Benzoylcyclohexane-1-carboxylic acid (I) was prepared in 92% yield, m. 151-2° (Et₂O) as described by P. and N. (loc. cit.) for the cis epimer (II). I also was obtained from II by heating a solution in 2N NaOH for 16 hrs. at 100°. II was refluxed with N-methyl-4-piperidylhydrazine in EtOH for 24 hrs. to precipitate 74% cis-1-(1-methyl-4-piperidyl)-3-phenyl-4,5-tetramethylene-4,5-dihydro-6-pyridazinone (III), m. 146° (EtOH); the trans epimer (IV) was prepared in an analogous way in 78% yield, m. 155° (EtOH). To a solution of IV in AcOH a solution of Br in AcOH was added dropwise. The mixture was heated 2 hrs. to 120°, AcOH removed by distillation and the residue recrystd. from H₂O and EtOH to give 62% 1-(1-methyl-4-piperidyl)-3-phenyl-4,5-tetramethylene-6-pyridazinone-HBr (V), m. 220-2°, the free base m. 179-80° (acetone). V was obtained from III in 69% yield. The following 1-(1-methyl-4-piperidyl)-6-pyridazinone deriva. were prepared in this way: 3-methyl, m. 87-9° (after sublimation at 80° in high vacuo); 3-phenyl, m. 122-5° (acetone) (HBr salt decomposing 310° (H₂O)); 3,5-dimethyl (HCl salt), m. 252-4° (EtOH); 3-methyl-5-phenyl, m. 140° (Et₂O-petr. ether); 3-phenyl-5-methyl (HCl salt hydrate), m. 284° (EtOH); 3-phenyl-5-cyano, m. 223° (EtOH) (HCl salt decomposing 280° (H₂O)); 3,5-diphenyl, m. 243° (acetone); 3-phenyl-4,5-diethyl (HCl salt hemihydrate), m. 268-70° (EtOH). The monohydrate from biacetyl and N-methyl-4-piperidylhydrazine, Et cyanoacetate, AcOH, and NH₄OAc were refluxed 15 hrs. in benzene while water was removed continuously. The benzene was distilled and the residue taken up in CHCl₃. The solution was cooled and shaken with 20% KOH, 18% HCl, and 2N HCl, resp., made alkaline with 18% KOH and again extracted with CHCl₃. After removing the CHCl₃, the residue was taken up in Et₂O, petr. ether added, and the solution filtered through an Al₂O₃-column. The filtrate was treated with a 30% HBr-AcOH solution to give 46.0 g. 1-(1-methyl-4-piperidyl)-3,4-dimethyl-5-cyano-6-pyridazinone-HBr

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from 65.6 g. of the monohydrazone, decomp. 238-40° (MeOH-Et2O);
free base m. 103-5° (Et2O). The following compds. were prepd. in
this way: 1-(1-methyl-4-piperidyl)-3,4-tetramethylene-5-cyano-6-
pyridazinone-HCl, decomp. 247-50° (EtOH-Et2O);
1-(1-isopropyl-4-piperidyl)-3,4-dimethyl-5-cyano-6-pyridazinone-HCl,
decomp. 276-8° (EtOH-Et2O), and 1-(1-methyl-2-
dimethylaminoethyl)-3,4-dimethyl-5-cyano-6-pyridazinone-HBr, m.
209-11° (EtOH).
IT 879006-23-2P, 1(2H)-Phthalazinone, 4a,5,6,7,8,8a-hexahydro-2-(1-
methyl-4-piperidyl)-4-phenyl-, trans- 879006-25-4P,
1(2H)-Phthalazinone, 4a,5,6,7,8,8a-hexahydro-2-(1-methyl-4-piperidyl)-4-
phenyl-, cis-
RL: PREP (Preparation)
(preparation of)
RN 879006-23-2 CAPLUS
CN 1(2H)-Phthalazinone, 4a,5,6,7,8,8a-hexahydro-2-(1-methyl-4-piperidyl)-4-
phenyl-, trans- (6CI) (CA INDEX NAME)

Relative stereochemistry.



RN 879006-25-4 CAPLUS
CN 1(2H)-Phthalazinone, 4a,5,6,7,8,8a-hexahydro-2-(1-methyl-4-piperidyl)-4-
phenyl-, cis- (6CI) (CA INDEX NAME)

Relative stereochemistry.

